AVIATION

The Oldest American Aeronautical Magazine

SEPTEMBER 19, 1927 Issued Weekly PRICE 15 CENTS

Aerial photo of a Marine Corps flight formation taken at Coronado, Calif.
(Acme)

VOLUME XXIII

NUMBER 12

SPECIAL FEATURES

AVIATION AND BUSINESS
NEXT STEP, SUPERCHARGERS?
THE STINSON-DETROITER MONOPLANE

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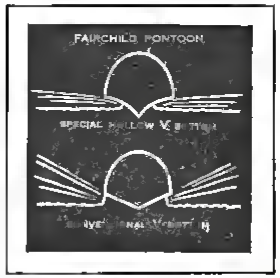
WILL REMAIN THE SAME.

AVIATION PUBLISHING CORPORATION
250 W. 57TH ST.
NEW YORK CITY

This Spray Throwing Business....



IS something to think about... For many a good propeller has been cut off in its prime by hefty slugs of water thrown up by a poorly designed float. And now Fairchild engineers have developed a float bottom that *throws no spray*. This concave V-bottom planes better — permitting quicker takeoff than the ordinary V-bottom. In rough water the sharp V at the keel breaks the shock and allows softer landings.

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Floats are now in production and ready for delivery for airplanes of 2500 to 4000 lbs. gross weight. Other sizes are being developed.

Metalboat Division Fairchild Airplane Manufacturing Corporation, Subsidiary of Fairchild Aviation Corporation, Farmingdale, Long Island, N. Y.

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NEWS ARTICLES AND ITEMS

FEATURES AND DEPARTMENTS

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With the Editor

The publishing date of this issue of AVIATION marks the beginning of what is expected to be the greatest air carnival in the history of American aeronautics The event is known as the 1927 National Air Races and according to latest report over one hundred airmen and planes will take part in the various events to be held between the 19th and 25th of this month Prior to the two day carnival to be held at Spokane, Wash, municipal airport, there will be flown two Pacific Coast (San Francisco-Spokane) races, two transcontinental (New York-Spokane) races, as well as a transcontinental (New York-Spokane) non-stop air race

George Newbold, business manager of AVIATION, will represent this publication during the air festivities at Spokane, and it is planned to print in the Oct 3 issue an eye witness story of the various happenings, together with as many illustrations and descriptions of competing planes as it is possible to procure.

AVIATION

The Oldest American Aeronautical Magazine

Vol. XXIII SEPTEMBER 19, 1927 No. 12

Vale-Government Air Mail Service

AFTER NINE years and two months of unbroken, year round operation and steady development the U. S. Air Mail, at midnight of August 31, 1927, passed out of existence as a government operated activity and became a contract service. This was in accordance with the position consistently taken by the U. S. Postoffice Department that government operation of the service would be continued only until commercial aviation in the United States reached the stage of development when it could safely take over the aerial transport of the mails. By this action the government pays a splendid tribute to the solidity and dependability of the commercial air transport lines of the country for no contractural exactions are more rigid than is the performance which the United States Postoffice Departments requires of all who contract to transport the mails.

With the ringing down of the curtain on the U. S. Air Mail as a government operated service there passed into history an operation that for more than nine years has stood at the head of civil aviation this world over. Ever in the lead of developing the trade of commercial flying, and for years the hope and encouragement of the airplane industry, the U. S. Air Mail endeared itself to all who gave their best efforts to the development of aviation. As purely a flying operation, the U. S. Air Mail with its daily round trip service from coast to coast in all weather and across mountain ranges and deserts, and with its brilliant night flying, has won the plaudits of the world.

The Air Mail has been as a badge of honor to every man connected with it, and every man who has become an integral part of the service has been a credit to it. The boldness of the conception, as far back as 1918, of a dependable and regular airplane mail service, the overcoming of the obstacles that beset the launching of such a service while we were still at war, the education of Congress to properly provide for the service, and of the public to properly patronize it, and the final brilliant rounding out of the usefulness of the service by successful night operation, were each and every one tremendous undertakings, and were made successful only because of the performance of pilots and field support. It was in the field where the battle was won, and it will be with pleasure that the country will learn that this entire splendid field organization and this array of peacetime aces with their records of a quarter million and in some instance a third of a million miles in faithful driving of the mail, will continue to uphold in the contract air mail service the fond traditions of the *original* United States Air Mail whose golden book of deeds was closed to further entry on midnight of August 31.

The names of Praeger, Shaughnessy, Henderson and Glover will ever be associated with this creditable achievement.

Ambition's Toll

WITH EACH new report of sad misfortune befallen some airman or airmen attempting to make a long non-stop flight over the waters of the Atlantic or the Pacific, there arises an increasing cry and demand for drastic action to be taken to prohibit such aerial ventures. But although such appeals may be voiced with whole hearted sincerity they are ridiculous at the outset, for, as one well known Englishman so aptly put it, "You might just as well try to stop man from flying the Atlantic as to stop him from climbing Mount Everest".

Ever since time immemorial mankind has been lured onward by the unknown and the seemingly impossible. It all may be regarded as a part of the evolution of civilization and progress. Many times has the contemplated feat seemed foolhardy and reckless, but an equal number of times has success benefited the world by giving it something that it did not have before. In all undertakings there are always those who made less careful preparations than others. However, in reference to the recent trans-oceanic disasters they who have failed and are gone had the personal faith that they would win, but at the same time were fully cognizant of the fate that would be theirs if they did not succeed. According to their lights the chances of success were in their favor and so they made the attempt which, as history shows us, proved them wrong.

The fact that they failed where others had succeeded before them raises the question of why they should have attempted a hazardous mission that had already been accomplished? The answer is, personal ambition and the desire to improve on those who have gone before.

Aviation is but one of many arts that have taken lives of men and women who aspired to equal and better the feats of others. And in the majority of cases although they lost their lives they gave something of value to the world, if only a lesson in experience.

Let it be hoped that the profit derived from these recent sad aerial experiences will tend to make future airmen increase the factor of safety. But to try to dissuade them altogether is futile for personal ambition cannot be completely quenched and until trans-oceanic flying passes beyond the experimental stage there will be those pilots who take off from civilized ground and fly into the oblivion of the airman's Valhalla.

The Stinson-Detroiter Monoplane

Powered by Single Wright Whirlwind Engine and with Exception Of Fabric and Wing Spars it is Constructed Entirely of Metal

THE STINSON AIRCRAFT CORP of Northville, Mich., has had a remarkable development, especially considering that the corporation is only two years old. During the current year it has delivered, at the end of August, 35 commercial planes. Production of the "Detroiter" monoplane, upon which it is not concentrating, has reached 2½ planes per week.

The company is fortunate in its personnel, being headed by Edward A. Stinson, whose 15 years flying experience is incorporated in the design of Stinson planes, and having as chief engineer, W. A. Naylor, graduate in aeronautical engineering at the University of Michigan, and as sales manager, W. A. Mara, formerly aviation secretary of the Detroit Chamber of Commerce.

Many Prominent Users

The corporation has been successful in securing many prominent companies as customers for Stinson planes. To a large extent, this has been due to the efforts of Mr. Mara, who set out to convince some of the large business concerns that they could profitably use aircraft in their sales and service work as well as for transportation of executives. Among the users of Stinson planes in this class are: A. W. Shaw Publishing Co., publishers of several nationally known magazines; the Erwin & Wasey Co. of Chicago, a large advertising agency, which is operating a Stinson plane to determine the actual operating costs of air transportation and to secure by practical experience the information upon which future marketing of planes must be based. The Chicago Herald Examiner is another Stinson plane operator. The Scenic Airways, Inc., has purchased two Stinson planes for sight-seeing flights over the Grand Canyon. The Wise Bird Club of Detroit also owns a Stinson plane.

A notable achievement this year was the winning of the National Reliability Tour by Eddie Stinson with a useful load of 2295 lb. and a contest load of 1500 lb., the heaviest carried by any entry. The selection of Stinson monoplanes for numerous long distance flights indicates the confidence of experienced pilots in this type. When Paul Redfern took off on his flight from Brunswick, Ga., for Brazil, he lifted from the ground a useful load of 3700 lb. including 518 gal. of gasoline, 20 gal. of oil, raft and supplies, the greatest load ever taken off with a single Wright Whirlwind engine. The quick take-off of these planes under heavy load conditions was illustrated by the fact that Eddie Stinson took off the Redfern plane at the Ford Airport with a passenger, 425 gal. of gasoline and 20 gal. of oil on a runway only 3,800 ft. long. The two Stinson Detroiters for the London, Ontario, to London, England, and the Windsor, Ontario, to Windsor, England, flights were taken off at Selfridge Field with the same loads in still air. The runs of all three planes varied from 1900 to 2100 ft.

The round-the-world flight of Brock and Schlee is another illustration of the demand for Stinson monoplanes for long distance flying. After winning the National Reliability Tour with close to 2000 points more than its nearest competitor, the "Pride of Detroit" was refitted and equipped for this world flight.

Another Stinson monoplane was delivered on Sept. 1 to a Wheeling, West Virginia, group who are backing a New York to Paris flight by George W. Haleman accompanied by Miss Ruth Elder as co-pilot, which is scheduled to leave from Roosevelt Field, Long Island, during September.

Hangar to be Erected at Flying Field

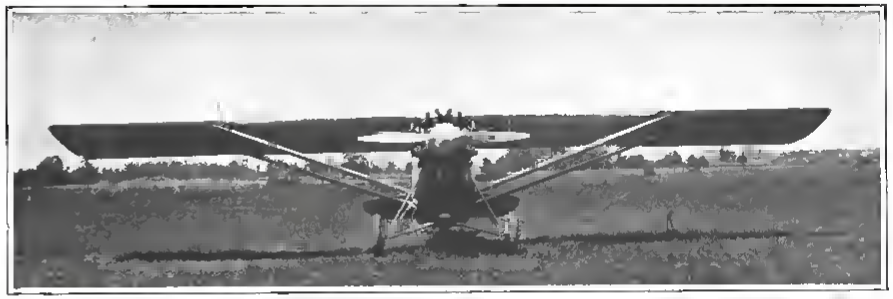
The Stinson flying field, located about two miles from the factory at Northville, is in constant use in flight-testing Stinson planes and by users of Stinson aircraft. Plans have been completed for a modern hangar on the field.

A description of the Stinson-Detroiter monoplane follows.

Externally the fuselage, empenage and landing chassis of the Stinson monoplane resemble the Stinson-Detroiter biplane. The monoplane, with its closed cabin, semi-cantilever wings, Wright Whirlwind engine, and split landing gear, is one of the most recent additions to the rapidly increasing number of American planes of this type. Aside from the fabric and spars the plane is constructed entirely of metal.

The problem of safety was given careful consideration in its design. The gasoline is all carried high above the engine in two 35 gal. tanks, one on either side, in the wings. This insures not only gravity feed but cuts the fire risk to a minimum. The plane was designed using the conventional Army Air Corps methods of stress analysis. A factor of 5.8 was used in the wing structure at high incidence and 4.0 at low incidence. The landing gear was designed with a factor of 6 as was the tail skid also. It is claimed that the inherent

Front quarter view of the Stinson-Detroiter monoplane manufactured by the Stinson Aircraft Corp



Front view of the Stinson-Detroiter monoplane (Wright Whirlwind)

properties of the wing allow a neutral tail without sacrificing any stability. The Stinson Detroiter monoplane recently made a flight of 180 m. with the pilot's hands off the controls the entire time.

The cabin is more spacious than that of the biplane. Five wicker chairs in addition to the pilot's seat afford seating comfort and leave room for 300 lb. of baggage in the rear cabin. Safety glass in all windows and doors minimize the danger in case of a crash. The side window by the pilot is removable in case of sleet or snow, thus providing an emergency opening for the pilot's head. The entire inside of the cabin is finished off in leather. Sliding windows afford ventilation on warm days, while dual exhaust heaters so placed inside the exhaust keep the cabin warm on cold days.

The wings are built up of spruce spars and stamped metal ribs. The forward spar is routed while the rear spar is of solid section. The ailerons are of fabric covered welded steel tube construction. They are actuated by push-pull rods sliding through graphite bearings.

Balsa wood is used to fair the steel tube lift struts. These struts are fitted with screw adjustments at the lower end to facilitate rigging the wings.

Conventional welded steel tubing is used in the fuselage. At the top are heavy tubes of chrome molybdenum steel taking the compression loads from the spars. The tension in the lift struts is transferred to the fuselage by tie rods at the bottom.

The empennage is of welded steel tube construction covered with fabric. Both stabilizer and elevator are controlled by push rods in the fairing below the lower longerons and, like the ailerons, they slide in graphite bearings. By having the fin in line with the slip stream, the necessity of holding "right rudder" is eliminated. The balanced rudder is controlled by cables in the usual manner.

The engine mount is attached to the fuselage by four bolts. The mount, which is of chrome molybdenum steel tubing, supports the engine on soft copper washers, reducing the vibration to a minimum.

The under carriages on both the Stinson monoplane and biplane are identical. They are fitted with mechanically operated internal brakes controlled by heel pedals. The brakes operate in conjunction with the rudder in such a way that when force on either rudder is applied, the brake action on that side operates, while on the other side it is released and the heel pedal comes up. The brakes may also be applied independently of the rudder action. It is claimed that with the brakes it is possible to bring the Detroiter to a complete stop within 150 ft. and turn in its own length or taxi cross wind.

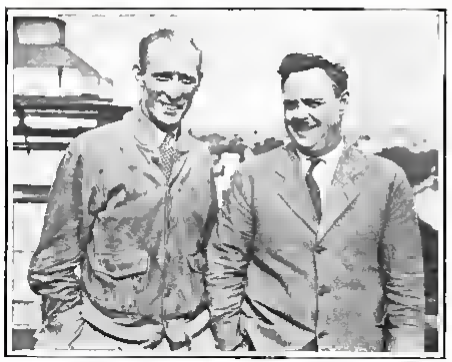
Geueral specifications:

Length	32 ft. 10 in.
Span	45 ft. 10 in.
Height	9 ft. 0 in.
Chord	84 in.
Area of Wings	292 sq. in.
Area of ailerons (2)	20.5 sq. ft.
Area of rudder	12.8 sq. ft.
Area of fin	6.0 sq. ft.
Area of stabilizer	28.6 sq. ft.
Area of elevators	19.6 sq. ft.
Incidence	3°
Dihedral	Zero degrees
Sweepback	None
Weight of plane empty	1970 lb.
Weight of gasoline (70 gal.)	420 lb.
Pilot and 4 passengers	675 lb.
Oil (6 gal.)	45 lb.
Total weight	3310 lb.

Rear quarter view of the Stinson-Detroiter monoplane

Pride of Detroit Reaches Hongkong

As AVIATION goes to press word has been received of the safe arrival in Hongkong, China, of Edward F. Schlee and William S. Brock who are endeavoring to encircle the globe by air in the Stinson-Detroiter monoplane, "Pride of Detroit". Shortly before, news had been received of the arrival at Hanoi, French Indo-China, after a silence of 33 hr, during which time grave fears were being held for the safety of the airmen. They had taken off from Rangoon at 6 P.M., Eastern Standard time, Sept 7 intending to fly to either Bankok, Siam, or Hanoi. When they were not sighted



Edward F. Schlee and William S. Brock, pilots of the Stinson-Detroiter monoplane "Pride of Detroit"

at Bankok public fears were aroused, but in explanation the fliers stated at Hanoi that a monsoon had delayed them so they decided to continue on without stopping.

Hongkong is almost the halfway mark of the flight. At that point they had covered 10,295 mi of the projected 22,122 mi flight.

From Hongkong the airmen have only a 760 mi. flight to Shanghai before a 1,120 mi. flight over water to Tokio.

From Tokio they face a dreary 2,480 mi. journey to Sand Island of the Midway Islands, an isolated coral group almost in mid-Pacific between the North American continent and Asia. After that they must negotiate a 1,440 mi. flight to Honolulu and another of 2,400 mi to San Francisco.

The Pride of Detroit progress to date follows

MILEAGE COVERED

Harbor Grace, N. F., Aug. 27-28, to London	2,360
London, Aug. 29, to Munich	580
Munich, Aug. 30, to Belgrade	610
Belgrade, Aug. 31, to Constantinople	500
Constantinople, Sept. 1, delayed by Turkish authorities	
Constantinople, Sept. 2, to Bagdad	1,075
Bagdad, Sept. 3, to Bender Abbas, Persia	885
Bender Abbas, Persia, Sept. 4, to Karachi, India	710
From Karachi, Sept. 5, to Allahabad, India	925
From Allahabad, Sept. 6, to Calcutta, India	485
From Calcutta, Sept. 7, to Rangoon, Burma	665
From Rangoon, Sept. 7, to Hanoi, French Indo-China	1,000
From Hanoi, Sept. 8, to Hongkong, China	600
Total mileage covered	10,295

MILEAGE AHEAD

From Hongkong, China, to Shanghai, China	780
Tokio, Japan (radio beacon)	1,130
Sand Island of Midway Islands, U. S. (radio beacon)	2,480
Honolulu, U. S. (radio beacon)	1,440
San Francisco, U. S.	2,400
Cheyenne, U. S.	925
Chicago, U. S.	865
Detroit, U. S.	257
Harbor Grace	1,550
Total Mileage ahead	11,827

Bids Asked On Western Mail Route

An advertisement has been issued inviting proposals for the transportation of air mail under contract as follows: CHEYENNE, WYO., via DENVER AND COLORADO SPRINGS, to PUEBLO, COLO., and return. Distance each way approximately 199 mi.

The route is open to bidders regardless of residence, and bids will be received at the Department in Washington until 12 o'clock noon, Oct. 4, 1927. Copies of the advertisements are on display at all post offices on the route, and the instructions to bidders contained therein are uniform.

The schedule to be adopted will require an average flying speed of at least one hundred (100) m.p.h. The Department realizes that in some instances, due to weather conditions, etc., it may be impracticable to maintain such an average, but under favorable conditions even better time may be possible. Proper allowances will be made in all such cases.

The bond to be furnished with the proposal is in the amount of $2,000 and will run concurrent with the bond furnished under the contract by the successful bidder. The contract bond will be fixed at not less than $10,000. Cashier's or Certified checks are not acceptable as a bond.

Contractors must permit planes of other contractors on connecting lines to land and take-off at all fields on this route when such planes are actually engaged in transporting mails to or from this route.

Proposal blanks may be obtained from postmasters on the route or from the Post Office Department, Washington, D. C.

Carling Plane Fails to Reach London

A few short hours after the pilots of the Fokker monoplane "Old Glory" had reduced an S. O. S. call, Capt. Terry Tully and Lieut. James Medcalf took off from Harbor Grace, N. F., in the Stinson-Detroiter monoplane "Sir John Carling" bound for London, England. But since that time no word has been heard of them being sighted en route.

To all appearances the plane was functioning properly as it faded into the eastern sky and when the hour of their arrival at the Croydon airdrome, ontside London, England, neared, thousands of people had gathered to witness the landing. Even when the plane was long overdue experts were of the belief that disaster had not befallen the airmen, and that they had but been blown temporarily off their course. But when the time limit set for the gasoline supply had come and gone even the most skeptical was forced to admit that the Sir John Carling was down somewhere on the waters of the North Atlantic. The loss of Captain Tully and Lieutenant Medcalf raises the trans-oceanic death toll to twenty-seven of which two were women.

The "Sir John Carling" piloted by Capt. Terry Tully and Lieut. James Medcalf which is believed to be lost in the North Atlantic as the result of an unsuccessful attempt to fly from Harbor Grace, N. F. to London, England.

Curtiss Pilot to Test "Hawks" in Chile

William H. McMullen of the Curtiss Export Corp., sailed recently for Chile on the S.S. *Santa Elisa* to test and put into official service ten Curtiss "Hawk" pursuit planes for the Chilean Army Air Service.

New Fuel Improves Engine Performance

When the recent National Air Tour visited Tulsa, Okla., all of the planes were re-fueled with a new gasoline "Naturaline" made entirely from natural gas, and manufactured by Chestnut & Smith Corp. of that city.

This fuel has been under test on aviation engines for nearly a year, during which time every type of engine commonly used in modern planes has been carefully flight tested under the supervision of technicians, using instruments on the planes which were carefully checked against standard apparatus with every precaution taken to assure accuracy of results.

In every instance this fuel has shown a marked improvement in engine performance. Its unusual volatility makes for quicker starting and smoother engine performance and there is a marked absence of detonation, or "knock" in the engines of the higher compression type.

Since it is entirely free from gasoline made from crude oils, it is corrosion free, with a minimum carbon content, high in "anti-knock" qualities and results have shown it more economical in consumption per flying hour.

Another factor, particularly interesting to the flying fraternity, is its light weight. This fuel weighs from 46 to 50 lb. per gal. less than the U. S. Fighting Grade Aviation gasoline, which is of considerable consequence in commercial planes where the pay load is figured on the basis of two mills per pound mile.

High Volatility Aids Altitude Flying

Its high volatility makes it particularly desirable for flying at altitudes above 10,000 ft. where many of the heavier gasolines require the use of superchargers for maximum efficiency, yet tests made with a ground temperature of 110 deg. Fahr. show no tendency to vaporize either in the lines or in the jets.

It has been found that best results, from a fuel consumption standpoint, are obtained by changing the 110 jets, commonly used, to 115 jets. This has been demonstrated by tests in both summer and winter ground temperatures ranging from below freezing up to 110 deg. Fahr.

There is no tendency to increase engine temperatures when the smaller jets are used. In fact the series of tests just completed have, in every instance, shown an average lower temperature of five degrees except on one of the older types of engines, water cooled, where no appreciable difference over ordinary refined gasoline was shown.

The manufacture of natural gasoline has, during recent years, increased rapidly in the oil producing sections of the Mid-Continent and California fields and refiners of this product have only recently realized the necessity of broadening their market by increasing the efficiency of their manufacturing methods to a point which will enable them to market their product as a finished fuel rather than as a blending medium for use by crude oil refiners who use it to build up the quality of their refined gasolines.

Now that the entire natural gasoline branch of the Oil Industry have realized the necessity for making of their product more than merely a blending material it may be expected that many will follow the lead of Chestnut & Smith Corp. and devote their efforts toward making and marketing a perfectly balanced, highly efficient, finished aviation fuel.

Tests Still Being Conducted

Modern refining processes have enabled natural gasoline manufacturers to thoroughly stabilize their product until the evaporation losses are no greater than from ordinary refined gasolines, removing one of the greatest objections raised against the older types of natural gasoline, which was "wild" in the extreme and not fit for use as a finished motor fuel.

The fuel used by the National Air Tour planes on their flight from Tulsa was of approximately 72 gravity and a very low end-point. It is not possible at this time to secure from Chestnut & Smith Corp. the exact specifications of the product. The company is still running tests under the supervision of disinterested technicians for the purpose of checking their findings against tests previously run by the technicians on the manufacturers' staff. When these tests are completed it will be necessary to check the specifications against those set up by the American Society of Testing Materials and probably a new distillation standard created for this type of fuel.

The first of this series of tests was conducted under the supervision of Dr. Geo. G. Brown, professor of chemical engineering of the University of Michigan, who is in charge of the research program for the Association of Natural Gasoline Manufacturers. These tests were conducted at the McIntyre Airport, Tulsa, Okla., last December, following the close of the convention of the American Petroleum Institute and upon the results obtained was built the program of tests which has been followed out during the period since that time.

De Havilland "Tiger Moth" Makes 20,000 Ft.

A claim for the world's altitude record for light planes was established on Aug. 29 when the British pilot, Capt. Hubert Broad climbed 20,000 ft. in 17 min. in a de Havilland "Tiger Moth." It is stated that at 20,000 ft. Captain Broad was

The new D.H. "Tiger Moth" in flight with Captain Broad at the "joy stick"

climbing at the rate of 4,000 ft. a minute, but did not try for additional altitude owing to the fact that he was not equipped with oxygen apparatus.

During a speed flight test one week prior to making the new altitude record, the same plane set a new world's light plane speed mark of 186.47 m.p.h.

New Planes for National Guard Squadrons

Announcement is made of the following winners in the competition on airplane design of a type suitable for the present-day use of National Guard Squadrons throughout the United States.

The Douglas Airplane Co. of Santa Monica, Calif., the Keystone Aircraft Co. of Bristol, Penn., and the Curtiss Aeroplane and Motor Co., Inc., of Garden City, L. I., New York.

The requirements for which designs were submitted by these companies are a light-powered two-seater of an all-around, all-purpose type which can be used by the National Guard Squadrons in flying training, in fixed gunnery training, in flexible gunnery training, for an observer in radio and photographic training, and for cross-country flying. The motive power will be the Wright J-5 engine which has achieved so much success recently in the trans-oceanic flights.

This is a step taken in the course of re-fitting National Guard Squadrons throughout the country with planes of modern construction. The wartime planes used in the last few years by the National Guard Squadrons are being salvaged and at the present time are being replaced by the training planes now used by the Army Air Corps at its flying schools, and by a very limited number of the service type observation planes of the Army.

The "Pheasant" Three Place Biplane

First Production Plane of Pheasant Aircraft Co. is Powered With an OX5 Engine

THE FIRST production plane of the Pheasant Aircraft Co., of Memphis, Mo., was recently flown for the first time by Herold B. Phillips, chief test pilot for the company. The "Pheasant" is a three-place OX5 biplane fitted with dual controls and is of conventional design having a steel fuselage, wood wings, divided landing chassis, etc. It was designed by Orville H. Hickman, manager of the company.

During the first test flight Mr. Phillips demonstrated the exceptional performing qualities of the Pheasant. After a remarkably short take off he climbed the plane 600 ft. in the first minute. Later it was spun, rolled, whipstalled, sideslipped, looped and put through every other possible maneuver and, at all times it was under perfect control. The plane appears to be extremely sensitive on all controls at stalling speed and to some extent below that speed.

One of the most unusual features of the craft is the combination of two different airfoils. It is claimed that by using an Aeromarine section for the lower wing a fast take off and slow landing speed is attained and by using a Clark Y sec-

Interenal construction of the lower right wing of the "Pheasant"

tion for the upper wing a higher top speed and better maneuverability is attained. Another feature, seldom found in light commercial planes is the differential aileron control, giving the ailerons a greater motion upward than downward.

The fuselage is built of steel tubing, with tubes for cross bracing giving a modified Warren truss. The pilot and passengers are seated in roomy cockpits fitted with comfortable cushions. At one side of the passengers' cockpit, above the upper longeron, is a door. The windshields were designed to give maximum protection for the least wind resistance.

The plane is well streamlined having the radiator in the nose and in that way the resistance that would be produced by the cowling is used to some advantage.

The upper wing is built up in three parts; a center section and two panels, while the lower wing is made up of two panels. The internal wing construction is quite conventional using routed spars and built up ribs. The drag bracing is

Front view of the "Pheasant" (OX5)

by solid compression struts and the usual diagonal bracing. The fittings cover the entire area of the spar at each strut point, with the pull of the wires placed so that the maximum pull will be in line with the bolts that hold the fitting to the spar. In other words there is no eccentric loading.

Tail surfaces are of all steel construction, the ribs being built up of sheet steel bent to channel form and then lightened. All control surfaces except the rudder are operated by rods. The rudder is actuated by cables controlled by foot pedals. To compensate for any longitudinal variation in load the adjustable stabilizer is controlled in flight from the cockpit. The vertical fin is adjustable on the ground to compensate for the propeller torque.

The under carriage uses a system of struts and shock chord which at all times keeps the weight of the plane on rubber resulting in an easy landing absolutely free from noise. The tail skid is swung in rubber and can be removed as a unit by removing two quarter inch bolts.

The manufacturer's specifications and performance figures are as follows:

Span upper wing	31 ft.
Span lower wing	29 ft.
Chord upper and lower	60 in.
Dihedral lower wing	2 deg.
Weight empty	1150 lb.
Overall length	23 ft. 6 in.
Cruising range	500 mi.
Maximum speed	100 m.p.h.
Landing speed	30-35 m.p.h.
Climb per min.	600 f.p.m.

Rear quarter view of the "Pheasant" three place biplane.

Next Step, Superchargers?

By LIEUT. COMDR. F. W. WEAD, U.S.N.

WITH THE soundness of air-cooled engines recently and firmly established, one may readily wonder in what direction the next big step in aircraft or engine development will be taken. Superchargers have long been experimented with, but are not yet in successful general use. Though many details of installation and operation are not entirely satisfactory, we are, however, now entering the supercharger phase in some types of aircraft.

There are two types of superchargers which have been developed in the United States. The first, the fan type, sometimes called the General Electric or Moss type, has been largely developed through joint Army-Navy agreement by the Army Air Corps at McCook Field. The second, the Roots or NACA type blower, has been sponsored and developed by the Navy, the research work being carried out by the National Advisory Committee for Aeronautics.

Fan Type Driven by Reduction Gearing

The fan type supercharger is ordinarily driven by reduction gearing, or by the exhaust gases from the engine functioning through what is in effect a gas turbine. The problem of exhaust turbine design has been complicated by the high temperatures and tremendous speeds involved, and in attempting to eliminate these complications reduction gears were used, driving the fan from the crankshaft. In general, a fan speed of five times the crankshaft speed will give little or no supercharging effect. A fan speed of ten times the crankshaft speed will result in a critical altitude of some 7,500 ft. The critical altitude is the maximum altitude at which sea level pressure can be obtained. It has been found well nigh impossible with water cooled engines to produce a reduction gearing that will withstand the torsional vibrations of the crankshaft at these speeds. The fan is usually installed between the carburetor and the cylinders, where it improves the fuel distribution considerably. It requires power from the engine to run the fan at all times,—a direct loss when not supercharging,—and the agitation of the mixture tends to overheat it, necessitating an air cooler at high altitudes to overcome this latter difficulty, involving weight, space and additional complications. The greater the critical altitude and fan speed required, the more acute these difficulties become.

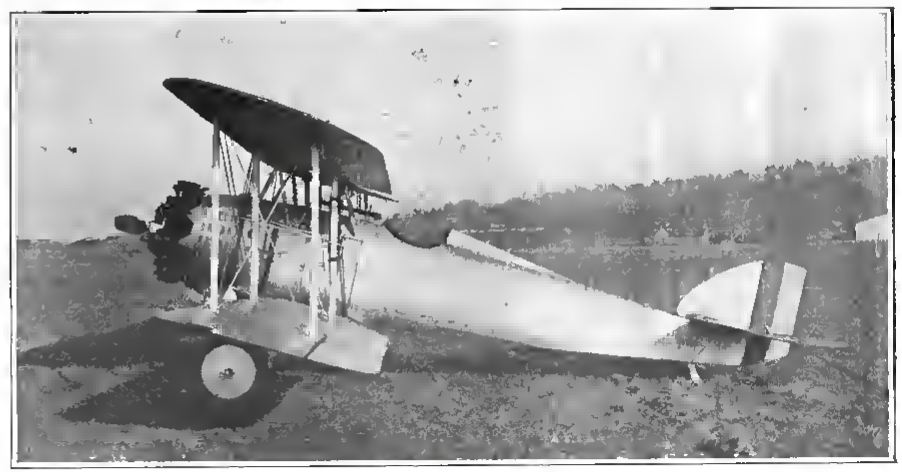
The Roots blower is gear driven, and is ordinarily installed to draw air from the outside and force it through the carburetor to the engine. No heating troubles arise even at maximum altitudes. A bypass valve controlled from the cockpit limits the amount of supercharging from zero at the ground to a maximum at ceiling. The power required to drive the blower is therefore directly in proportion to the amount of supercharging actually done, the loss at the ground being merely that necessary to overcome the friction of the gears.

In air cooled engines, however, no reduction gear troubles are encountered owing to the very short length of the crankshaft. Therefore, in recent air-cooled types a five to one reduction fan is employed, forming a rotary induction system which vaporizes and blends the mixture very thoroughly, resulting in extremely smooth running. By simply changing the gear ratio in the reduction drive of this fan so as to increase the fan speed, it becomes in effect a fan type supercharger.

In general, it may be stated that for critical altitudes up to 7,500 ft. the gear driven fan type of supercharger offers new possibilities, particularly for air-cooled engines, and that for greater critical altitudes the Roots blower or a combination of the Roots blower and fan type presents better chances for development.

In the Wright Apache, powered with a Pratt-Whitney Wasp in which Lieutenant Champion, U.S.N. recently set a new world's record for seaplane altitude, the Bureau of Aeronautics had installed a Roots blower blowing to the carburetor and thence to the regular 5 to 1 reduction fan of the rotary induction system. This gave him a critical altitude of some 30,000 ft. The Roots blower was turning some 7,000 r.p.m. and the only trouble of importance occurred in adjusting the blower clearances so that maximum efficiency could be obtained without contracting when heated from work.

The control of either type of supercharger is very simple. The bypass in the Roots type has been described, and in



The Vought Model FU-2 (Wright Whirlwind) equipped with a Roots type supercharger. This plane is stated to be the fastest and best performing plane in the world at altitudes above 20,000 ft.

the turbo driven fan type a waste gate serves to bypass the excess exhaust gases so that they do or do not pass through the turbo wheel. A throttle stop system much like that used in the old German overcompressed engines is installed. The first motion opens the throttle up to maximum power for safe operation on the ground, and a further motion is required to pass the spot into the supercharged range. A sealed altimeter is used as a guage to indicate the degree of

Showing the installation of a Roots type supercharger in a Vought FU-1 plane

supercharging utilized in order to maintain sea level pressure. Supercharging below sea level causes preignition and overheating, and lean mixtures in the turbo type tend to warp the turbine buckets.

With a normal engined airplane at 20,000 ft, the power output is about 57 per cent. of the power output on the ground, while the power required to drive the propeller is about 63 per cent. of what it was on the ground. For this reason the r p m's at 20,000 ft, with a normal engine are only slightly below those at sea level. With a supercharged engine, however, the power output at 20,000 ft is approximately equal to that on the ground, while the amount of power required to drive the propeller has decreased as for the normal engine. In order to avoid overrevving of altitudes therefore, supercharged engines must be equipped with propellers designed to give from 100 to 250 revs less than normal at the ground. Such a combination is efficient at only one specific altitude, and the development of an efficient, reliable adjustable pitch propeller is essential if supercharged aircraft are to function with maximum efficiency at all altitudes.

At altitudes the boiling point of water is considerably less than it is at sea level. In normal engines this presents no problem, as the power output and hence the cooling required also decreases with altitude. In supercharged engines however, the power output does not decrease with altitude, and hence in water-cooled supercharged types oversize radiators must be fitted. As has been noted heretofore, the greatest possibilities for utilizing superchargers in the near future lie in the air-cooled rather than the water-cooled field.

Now as to results. In a certain type of airplane by speeding the ordinary rotary induction fan up to ten times crank shaft speed, a critical altitude of 6,000 ft is obtained. The rate of climb for this airplane with a normal engine is 13,000 ft in ten minutes. Unsupercharged its service ceiling is about 22,000 ft. Supercharged it is some 27,000 ft. A Vought fighter has recently been issued for Naval service, for training in shipboard work, equipped with Wright J-5 (Whirlwind) engines and Roots blowers. While no detailed figures are at hand, these planes have a top speed of about 130 m.p.h. at the ground, and are stated to be the fastest general service airplanes in the world at 20,000 ft. Experience gained with these aircraft and in other more diversified employment of superchargers which will inevitably follow is certain to speed supercharger development.

In commercial aircraft superchargers at present would offer less power for getting off at sea level,—which is of serious moment where maximum loads are being carried,—but would materially increase the rate of climb and speeds at altitudes. There is the possibility, of course, that accurate charting of the upper air may dictate flying high on certain long routes in order to obtain the benefit of favorable winds. Past experiments also indicate that better fuel economy,—more miles per pound of fuel—and better corresponding economical speeds can be obtained with the supercharged airplane at altitudes than with the normal engined airplane near sea level. For air lines which work at high altitudes superchargers might now would prove of great advantage. For instance, on that portion of the Air Mail route over the Rockies with landing fields at or near 5,000 ft. the supercharger could be used without any throttle stop, resulting in more power at take off and increased performance in the air. It is understood that a Peruvian company has recently purchased a number of commercial aircraft for use at high altitudes and that they are to carry the same supercharger equipment as that provided for the Navy fighters mentioned above. While general commercial employment of superchargers will undoubtedly await further service developments, there are many specific cases where a direct gain in efficiency,—speed and pay

Access is made to the supercharger on the Vought model FU-1 through an opening on the right side of the engine cowling, as shown above

load,—can be obtained by the use of present equipment and methods.

In Army and Navy aircraft superchargers also offer opportunities that cannot be overlooked. In aerial fighting it is usually the man on top who comes home to talk about it. For this reason the service ceiling of fighting planes will ever be pushed up and up. We, and other nations, have had little or no experience with fighting patrols above 20,000 ft. Many problems concerning the warmth and comfort of personnel, the operation of guns and synchronizers at below zero temperatures, and the general use of oxygen remain to be solved. None of these problems are, however, insurmountable, and they will undoubtedly be met as experience is gained. It may also be noted that as the cruising ceiling of fighting patrols is extended, the more rapidly they will lose the top few thousand feet of altitude when combat is started. This is not only due to the initial dive, but also because of altitude lost in maneuvering and in gaining speed momentarily during close fighting. Present fighters, cruising at 20,000 ft, are down to 15,000 before the dog fight is well developed. But, although fighters are too sloppy to actually fight at or near their ceiling, that fighter which enters a fight from the superior altitude has a tremendous advantage. The supercharged engine provides a means to this end that no unsupercharged airplane, regardless of other characteristics, can meet. Fighting planes are highly powered and comparatively light. The loss of some power in getting off means little, while superior climb at altitudes and superior ceiling means everything. Even though the most efficient combination of propeller and engine speeds at all altitudes can only be obtained with the variable pitch propeller,—the development of which presents considerable difficulties,—supercharged fighters with present equipment are so far superior to any unsupercharged job that they will unquestionably be seen in general Naval use in the immediate future. This development and its adaptation to service aircraft, marks another definite step in the aircraft engine program of the Bureau of Aeronautics,—a program that is unquestionably leading the world in the most startling series of improvements in aircraft performance since the war.

Usefulness Depends on Type of Plane

With bombers, scouts, spotters and torpedo planes other matters must be considered. Scouts and torpedo planes are primarily required to take this maximum possible load off the ground or water and rarely operate at altitudes, they should not be supercharged at present. A supercharged bomber will take off a smaller useful load than a normal engined machine, but will take that load to a much greater bombing altitude. In this case consideration of performance, bombing methods, probable objectives, and defensive measures to be met should indicate whether bombers should be supercharged or not. Spotters are required to get off with a considerable load, climb to a moderate altitude, and remain there for some time. Further detailed consideration of aircraft and conditions is necessary to properly determine the advisability of superchargers in these and other specific cases.

In general, it may be stated that the normal engine appears best at this time where power and economy at sea level are paramount, while the supercharged engine is infinitely superior where power at altitudes is required. Past attempts at using superchargers in service have failed because of inadequate material and the difficulties incident to water-cooled engine installations, and, to some extent, operating personnel. At present with improved material and a keen appreciation of the need for superchargers in operating units, we are on the fairway to success in their use.

Examination for Asst. Mechanical Engineer

The United States Civil Service Commission has announced that an open competitive examination for assistant mechanical engineer (aircraft power plant) will be held, applications to be on file at Cincinnati, Ohio, not later than Sept. 30. The salary is from $2,400 to $3,000 a year. A vacancy in this position in the Air Corps, Materiel Division, Wright Field, Dayton, Ohio, and vacancies in positions requiring similar qualifications, at approximately the same rate of pay, will be filled from this examination, unless it is found to be in the interest of the service to fill any vacancy by reinstatement, transfer or promotion.

Further details can be obtained by addressing the secretary of the sixth U. S. Civil Service District, 403 Government Building, Washington, D. C.

No News of New York to Rome Plane

At this time no news has been received as to the exact whereabouts of "Old Glory", the Fokker monoplane piloted by James De Witt Hill with Lloyd Wilson Bertaud as co-pilot and Philip A. Payne as passenger. The plane took off from the beach at Old Orchard, Me., at 12 23 P.M., (Eastern Standard Time) on Sept. 6, for Rome, Italy, in an effort to break the present endurance and distance records.

When last heard from it was five hours off the coast of New Foundland. The plane had made good time to the south of Cape Race, where it headed out to sea, and at 12-41 A.M. on the morning of Sept. 7, the liner California reported the

Old Glory taking off the beach at Old Orchard, Me.

Old Glory overhead and flying well. There were four hours of silence, and then the liners Carmania and Lapland picked up an S O S from the plane. No position was given.

The radio men on the ships sent out frantic calls for position, and six minutes later came the call: "Five hours out from New Foundland, bound east," and then silence.

Hope for the plane rests in the fact that there was a considerable interval between the S O S and the last message, leaving ample time to open the dump valve, empty the gasoline and close the valve again. The huge empty tank could keep the plane afloat almost indefinitely.

The plane, which was described in detail in the Aug. 8 issue of AVIATION, is a Fokker F 7 monoplane powered with a single Bristol Jupiter 450 hp engine. It took off from the beach at Old Orchard, Me., after a run of approximately a mile and a half. The runway, a hard sand beach, is about two and a half miles long. For weeks the plane had been waiting at Roosevelt Field, L. I., for a west wind and then it was decided to use the beach at Old Orchard.

Both Bertaud and Hill were former air mail pilots, Payne was managing editor of the New York Daily Mirror and the representative of William Randolph Hearst, backer of the flight.

Swallow Airplane Plant Running Top Speed

Following the tragic end of Capt. Erwin's gallant attempt to find the lost fliers in the Honolulu Dole-Derby, when the captain of the plane went down in a tail spin, J. M. Moellendick, president of the Swallow Airplane Company, Wichita, who has worked day and night for six weeks helping complete and perfect the Erwin plane, collapsed from a nervous strain and was taken to a Sanitarium in Wichita, Kan., where the factory is located. By agreement between stockholders, a friendly receiver was appointed to have full charge of the plant. Geo. R. Bassett, who is well known in Wichita as a successful business man, was appointed receiver and is now operating the plant until reorganization can be perfected.

This factory which advertises the Swallow as "the first commercial plane in America" has been a real pioneer in commercial aviation in the United States. Its planes are known all over the North American Continent and in many foreign lands. For eight years it has been turning out a very successful small bi-plane which it claims, has had no accident in service in all that time.

Mr. Bassett found the plant overwhelmed with orders and has been purchasing new machinery and adding to the equipment to get these orders filled. At present he is turning out three planes a week but he plans to put on a night force within the next thirty days and double this output.

Aviation and Business

AIR TRANSPORTATION promises to be one of the greatest steps forward that has ever been made in the history of the world, and to have far reaching effects upon business. Commerce has developed along with transportation, and as transportation and communication facilities have been developed and perfected, business has become safer and more stabilized. Yet we have not been able to avoid rather serious business depressions. It is upon business depressions that air transportation is likely to have an effect far greater than one can visualize at the present moment.

Business goes through several different cycles. There are seasonal cycles. There are periodic cycles and there are long swings. On both the seasonal and periodic cycles air transportation, on account of its tremendous speed which may yet be increased, is sure to have a profound affect.

Business during the first few months of the year is ordinarily not as good as it is during the last months. Holiday spending has something to do with this and seasonal goods also play their part.

Merchants Must Now Stock Early

Seasonal goods are likely with present means of transportation to prove considerable of a speculation. For example, in New England in 1925 the bathing suit stock was exhausted early in June. In 1927 on the other hand it had hardly begun to move before the middle of July. On account of the slowness of the present methods of transportation, merchants have to get their season's stock into the store before the season, and if the season proves early, business may be lost due to lack of stock. On the other hand if the season is late in one section and early in another section of the country there is a surplus in one place and a shortage in another, with the result that the greatest possible volume of business cannot be done.

It is obvious that with extra rapid means of transportation, such as the airplane will provide as soon as there are adequate airports and landing fields in all communities, no merchant need lose business because of a shortage of goods. A telephone message or a telegram will bring him goods the same day where under present conditions he may have to wait a week or more, and then find it is too late to sell them.

Also if there is an unexpected demand for a certain class of goods on the Pacific Coast while there is a slump in the demand on the Atlantic, goods can be quickly carried from the Atlantic to the Pacific. The increased profit that will result from the speed in transportation is bound to make up for any difference in the cost of carrying the goods.

Again, a sales force can cover more territory and do it quicker. Men working out of St. Louis could cover the entire country and report back to the home office frequently, if they traveled by airplane. The home office would be in constant touch with all its men, could have personal conferences with them and keep in much better touch with the conditions in all territories than is the case at present. On top of this instead of having goods scattered all over the country in warehouses, two or three would be sufficient to carry the stock for the entire country. This means a smaller accumulation of goods and less necessity of selling anything left over at the end of the season, or that promises to be left over, at greatly reduced prices.

It can be seen then that in the case of seasonal goods a greater volume of business can be done during the season, there will be less danger of surpluses and there will be a surer net profit. Means of placing the goods where they can be sold most readily is of supreme importance in the case of seasonal goods.

Periodic cycles of business are those which run their course in a period of ten years more or less. In these periods we have a few years of declining prices. Then demand picks up, there is a slight increase in price and a still greater production of goods. The time comes when the surplus is too great and a depression follows during which the surplus is gradually reduced.

No Serious Depression Since 1907

The real reason for these periodic depressions is obviously the accumulation of a surplus of goods. Merchants, wholesalers and manufacturers all have surpluses. These depressions since the advent of the automobile, motor truck and improved rail transportation have not been as serious as they were before. For example since the war there has not been a depression that was so serious as that of 1907. Of course a certain amount of credit has to be given to the Federal Reserve Bank, but it is also necessary to give due weight to the part that improved transportation has played.

The automobile has made it possible for merchants to buy in smaller quantities, and more often than they did when they had to depend entirely upon rail transportation. It is not likely that such large stocks will be carried in the future as in the past. As a matter of fact no wholesaler is now carrying as large stocks as he formerly carried, partly because his customers are buying in smaller quantities and partly because he can get quicker deliveries from mills than ever before.

Air transportation will make it possible to speed up deliveries to a much greater degree so that all links in the distributing chain will not have to carry large stocks. There will not have to be so many warehouses in order to cover the country, and as each warehouse means some loss that could be prevented if the same or better service could be rendered with fewer. The airplane will also make it possible for executives of manufacturers to cover the entire country more often than is possible now. An executive that cannot be away from the plant for many days at a time, especially in the busy season, may yet find it very necessary to know first hand, conditions in the different parts of the country. By means of the airplane he can visit the most distant parts of the nation and be back in less time than it would take under present conditions to go more than half way to that place. The smaller quantity of goods scattered over the country and the ability to make personal visits to any part at any time are bound to result in far less accumulation of goods than has been the case in the past, and the smaller the accumulation of goods the less the danger of business depressions. Also, more effective distribution of goods means a great deal.

Fewer Distribution Centers

Under the present conditions with the necessity of holding goods in many distributing centers in order to be able to supply any demand that may arise, an increased demand in another center may mean overtime operation of the factory to meet that demand. With fewer distributing points and with facilities for shifting goods from one point to another within forty-eight hours, or less, goods already made are going to be distributed if there are enough to meet the localized increased demand. The factory does not have to increase production to take care of a sudden demand in one part of the country when there are goods in another part that will supply this demand.

Another way in which business profits will be increased is in industries making and selling various kinds of machinery, including automobiles and machine tools. It is not probable that the machines themselves will be delivered by air in the near future, but already, parts are being delivered. Automobile manufacturers and manufacturers of other kinds of machinery now have to maintain parts departments in many locations of the country. It is the only way in which really good service can be rendered. The money invested in these parts and the overhead of the departments runs into huge sums. The number of parts stations maintained could be cut in half, perhaps into quarters if those parts could be delivered to customers by airplane. At the same time customers would be getting better service than they are now getting, though the total number of parts held ready to meet the demand might not be more than a half or a third of the total now held.

Would Tend to Reduce Selling Costs

It seems quite logical that the airplane will do for merchandise much what electricity has done for power. A large power station can supply power to a thousand customers for a fraction of the total fixed costs of power plants for each customer. The labor cost is lower, the fuel cost is lower and the interest and depreciation on the plant is lower, because it requires a smaller payroll, and a smaller total plant when combined into one, than when divided into a thousand plants. Electricity by making it possible to transmit power effectively has saved millions of tons of coal and thousands of millions of dollars in power plant investments. In other words speed in transportation gives business the advantage of the diversity factor that the central power plant enjoys over the small isolated plant. Huge sums of money now tied up in idle stock can be released, in fact will be released as soon as business comes to a full realization of the value of the airplane in transportation. Selling cost will drop, especially the wholesale selling cost because the time spent in traveling will be cut down to at least a quarter of that now spent. The salesman for a manufacturer or wholesaler should at least double his sales taking the country as a whole.

There is every reason to believe that air transportation is going to prove one of the greatest economic factors that modern science has developed. It will tend to reduce the cost of living and to increase prosperity as well as lessening the danger of business depressions.

The Old and the New

On the left is the old familiar "Jenny" that has completed many years of faithful and unfaltering service as the training plane of the U. S. Army Air Corps. On the right is the newly adopted training plane, the Consolidated PT-1. The first has been delivered and many more are to follow. The passing of the Jenny is a step forward in training methods but she will live forever in the memories of all those who solved in her in the years gone by.

Aerial Express Service

J. E. Baker (left) general manager of the American Railway Express handing some of the express packages in the first air-express shipment to Pilot Maurice Graham of the Western Air Express. Inaugurated by the American Railway Express planes now carry transcontinental package shipments as well as air mail.

Definite Cancellation of Mail Contract

Cancellation of the contract of the Colorado Airways, Inc., for transporting mail by air between Cheyenne, Wyo., and Pueblo, Col., via Denver and Colorado Springs, was made effective in an order just recently issued by Postmaster General New.

The Boeing Air Transport, Inc., holding the air mail contract on the western leg of the trans-continental route, between Chicago and San Francisco, will handle the service on the Cheyenne Pueblo route on a temporary basis until the route can be re-advertised.

The contract of the Colorado Airways was ordered cancelled on Aug. 27 but on the following day the order was suspended that the company might be enabled to produce additional evidence to refute charges under which the contract had been ordered cancelled.

The Postmaster General announced recently, however, that after careful consideration of all the facts in the case the original order should stand and become effective at once.

The ground on which this action was taken was the discovery by the Postmaster General on Aug. 27 that after the bids had been submitted for the performance of this service and before an award had been made in March, 1926, the two bidders had entered into an agreement, as a result of which the lower bid was withdrawn. Both parties have since shared the compensation paid by the government on the basis of the award made to the only remaining bidder.

The original bidders were the Colorado Airways, Inc., Anthony F. Joseph, president, and N. A. Wimer of Denver. The bid of the Colorado Airways was 80 per cent of the air mail postage while that of Wimer was 73 per cent. The Wimer bid was withdrawn and the Department so notified by Wimer, giving as the reason that he was unable to furnish the performance bond required.

A New OX5 Commercial Monoplane

Central Aircraft of Mahaska, Kan, has produced an OX5 powered monoplane with an exceptionally high performance It is an open cockpit plane carrying two passengers, pilot and sufficient fuel for four hours. It was carefully streamlined, to keep the weight down and at the same time maintaining a high safety factor The wing is a single piece with box spars of spruce and birch. The ribs are built up into a

Side view of the new Central Aircraft OX5 monoplane

Warren truss External wing struts are of round steel tubing with steel ribs of one foot chord welded in place The wings, struts, and fuselage are all covered with fabric

The fuselage is of steel tube construction with a large door at the side of the forward or passenger cockpit. By locating the passengers at the center of gravity there is no necessity for an adjustable stabilizer with varying load conditions

The radiator is mounted on the nose thereby doing away with unnecessary plumbing and not obstructing the view and the air flow over the wing as in some types

The split axle type of landing gear of very sturdy construction is fitted with a series of rubber shock chord rings and by having the rings of differant diameters it is claimed

Head on view. Note radiator mounted on the nose.

that the load is absorbed gradually reducing the shock The tail skid has a shock absorber similar to that on the landing gear and is mounted inside the rubber fairing The tail skid is steerable and its streamlining is used in flight as a rudder

All horns and control cables are internal and readily inspected through removable plates. The ailerons are quite narrow and are differentially controlled having an upward movement of 32 deg and but 15 deg. downward

The following figures were submitted by the manufacturers from actual test flights with a stock OX5 engine and wooden propeller

Span	35 ft
Chord	6 ft. 4 in.
Height	8 ft 4 in
Length	21 ft. 9 in.
Wing section	Clark Y
Area of wing	208 sq. ft.
Effective area of struts	28 sq. ft.
Total area	230 sq. ft
Weight empty	1,000 lb
Weight loaded	1,650 lb.
Load per sq ft	71 lb.
Load per hp	183 lb.
High speed	112 m.p.h.
Landing speed	35 m.p.h.
Climb first minute	750 ft.

Callizo Convicted of Air Record Fraud

As a result of a private hearing conducted by the Aero Club of France, the name of Jean Callizo, hitherto one of France's foremost airmen, has been stricken forever from the records of French aviation Up until this hearing Callizo was credited with the world's altitude mark of 40,820 ft. (Class C airplane, returning to point of departure without refueling, as recognized by the Federation Aeronautique Internationale). After a recent attempt to better his supposed record Callizo claimed to have reached the height of 13,000 meters However, a barograph installed, unknown to him, in the tail of his plane showed a reading of only 4,000 meters.

It is reported that Callizo made little or no attempt to clear himself and merely asked that he be allowed to atone for his act by another attempt in which he declared he would establish an authentic and unquestionable record.

The decision of the investigating committee which was unanimous, declares, first, that the Aero Club refuses to list Callizo's alleged record of Aug 29, 1927, second, disqualifies him for life from air competition; third, cancels his records previously approved on Oct. 10, 1924, and Aug 23, 1926, for 12,360 and 12,412 meters respectively, and fourth, will request the F A I to take like action.

In addition, the Aero Club purposes to submit evidence against Callizo to the Chancellory of the Legion of Honor which awarded him the rank of Chevalier for his altitude exploits. Besides these penalties Callizo may have to face legal proceedings that may be taken by the firms by which he was employed.

In the event that the F A I. takes like action the world's altitude record will be awarded to Lieut John A Macready, formerly of the U S Army Air Corps, who reached a height of 38,704 ft. at Dayton, O, Jan 29, 1926.

Junior Aeronautical Engineer Examination

The United States Civil Service Commission announces the following open competitive examination

JUNIOR AERONAUTICAL ENGINEER

Applications for junior aeronautical engineer must be on file with the Civil Service Commission at Washington, D. C, not later than October 1, 1927 The date for assembling of competitors will be stated on their admission cards, and will be about ten days after the close of the receipt of applications

The examination is to fill vacancies in various branches of the service throughout the United States

The entrance salary in the District of Columbia is $1,860 a year After the probational period required by the Civil service act and rules, advancement in pay will depend upon individual efficiency, increased usefulness, and the occurrence of vacancies in higher positions. For appointment outside of Washington, D C, the salary will be approximately the same

The duties are to perform such work as routine testing, inspection of engineering material, preparing specifications for engineering material or apparatus, performing field work, making computations, preparing maps, assisting in conduct of experimental research tests, compiling reports, and handling technical correspondance.

Competitors will be rated on general physics, mathematics, general engineering, and aeronautical engineering

Full information may be obtained from the United States Civil Service Commission, Washington, D C, or the secretary of the board of U S civil service examiners at the post office or customhouse in any city.

AIRCRAFT PATENTS

Copies of patents may be obtained by writing the Patent Office, Washington, D C, giving the patent number and the name of the inventor. Cost 10c each

Patent No 1,610,680—MOORING GEAR FOR AIRSHIPS Vincent Crane Richmond and George Herbert Scott, Cardington England 3 Claims. Airship mooring gear, comprising a mooring wire and anchored side guys for controlling the movement of the nose of the ship while being hauled in by a mast line or wire blocks through which the side guys are rove said blocks being movable laterally under lateral movement of the nose of the ship during the early stages of the mooring operation and remaining stationary and preventing such lateral movement at the end of the mooring operation.

Patent No 1,634,964—MOORING DIRIGIBLE AIRCRAFT Joseph A Steinmetz, Philadelphia Pa. 4 Claims. The method of mooring aircraft which consists in lifting a mooring line by a captive aircraft to an elevation at which a dirigible may be safely navigated, and clutching a dirigible aircraft to said cable by devices carried by said dirigible aircraft

Patent No 1,634,089—MOORING MAST Ira F Fravel Washington D C 4 Claims A rigid airship mooring mast comprising an upright capable of rotary movement within a base plate, a horizontally extending tube having a point intermediate the ends thereof attached to said upright in such a manner as to allow of pivotal movement of the tube upwardly and downwardly in a vertical plane about said upright as a pivot.

Patent No 1,635,719—AIRPLANE Henry Wiese, Anderson, Ind 4 Claims The combination with an airplane having a body of a horizontal propeller central above the body of the plane tending to lift and control the vertical movement thereof and a horizontal baffle plate secured centrally on the underside of the body of the plane.

Patent No 1,633,889—AIRPLANE Germano Figlietti, San Francisco Calif 4 Claims An airplane comprising a fuselage a motor secured to the fuselage, a wing located above the fuselage and attached thereto a lifting propeller adapted to raise the airplane, said propeller to be located above the wings and to be rotatably connected to the motor and located between said lifting propeller and the wing thereby to prevent the in rushing of the air below the lifting propeller and to maintain a low atmospheric pressure above the wing

Patent No 1,634,167—ELECTRICAL GENERATING APPARATUS FOR AIRPLANES. George A Wilson Greenwood Miss 5 Claims Means for generating and storing electrical current the circuit having a switch capable of closure to operate the electric motor, and a clutch with an operating control therefor

Patent No 1,634,259—AVIATION DEVICE Elmer Grant Still Livermore, Calif 26 Claims. In an aviation device a disc, particularly radial vanes mounted on said disc and extending from near the periphery of said disc part of the way to the center of said disc a [illegible] cylinder mounted centrally on said disc and to which said vanes are attached, and means for revolving said disc with its mountings

Patent No 1,634,442—SAFETY ATTACHMENT FOR AEROPLANES Frank Beni and Dominick Ternasi Cleveland Ohio 8 Claims The combination with an aeroplane having a fuselage of a parachute adapted to be folded about the fuselage frame and attached at its outer [illegible] to the rear end portions of the fuselage frame

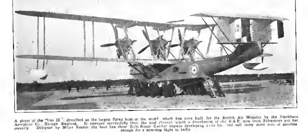
Patent No 1,627,614—AERIAL LANDING HARP FOR AEROPLANES Sawier A McCully Anderson S C 15 Claims An aerial landing harp for aeroplanes comprising a uniform hammock shaped device consisting of a series of cables each of said cables being secured at their respective ends to single elements means for supporting and spacing said cables one from the other attached near the forward and rear ends thereof respectively means on said supports to engage and hold the cables the cable engaging means on the forward support being spaced at greater intervals than the cable engaging means on the after support the engaged cables diverging from and after to said forward support, and means for anchoring the respective ends of the harp to fixed supports to hold the harp in suspension. An aerial landing harp for aeroplanes comprising a uniform hammock shaped device consisting of a series of spaced lateral cables each diverging forwardly from the other and an aeroplane having depending inwardly curved hooks to engage and deflect one pair of non adjacent cables of the series as said aeroplane moves forwardly thereover and thereupon

Patent No 1,627,856—AIRCRAFT DESIGN James L McVicar, Newport News Va 2 Claims. In an aircraft a central power plant driving and lifting propellers arranged for intensifying the lifting air stream lines delivered by the lifting propellers and whereby the trailing edge of the driving propeller is provided with a new body of air resisting of the forward driving movement the air to attack being thrust back and at the same time the lifting propeller being rotated upwards thereby thrusting the air stream downward and resulting in the downward thrust air stream being hooked on top of the air stream from the driving propellers resulting in greatly intensifying the lifting power of the lifting propellers, suitable propeller shafts and frame for carrying the power plant propeller and various aircraft appliances plate brackets having large surfaces for increasing the strength of the frame and at the same time tending to maintain stability for steerage means for supporting and enclosing the propeller shaft consisting of cylindrical tubular members, additional means for strengthening the frame consisting of curved or arched member portions connecting with the tubular supports

Patent No 1,639,796—AIRCRAFT Clem H Congdon Cleveland Ohio. 10 Claims In combination with an aircraft a central divisible float, laterally extending oppositely threaded shafts guide fittings operating on the shafts and means for imparting motion to the fittings along the shafts whereby the float is caused to divide

Patent No 1,638,853—AVIATION Charles L. Anderson Reno Nev 10 Claims In an aerial machine in combination an airplane body a motor mounted adjacent the forward end thereof a propeller adapted to be driven from said motor to propel said airplane in a forward direction lateral frame members extending outwardly from said body adjacent said motor a horizontal shaft rotatably mounted in said frame members, a plurality of wings spaced about said shaft and connected therewith to revolve therewith about the axis of said shaft, said wings being rotatably mounted about individual axes substantially parallel to the axis of said shaft driving means connecting said shaft and said wings adapted during rotation of said shaft and revolution of said wings therewith to rotate said wings about their individual axes so that upon downward movement they cut the air substantially flatwise to lift the airplane and so that upon upward movement they cut the air substantially edgewise a driving shaft extending outwardly from said body above said frame members having adjacent its outer end a driving connection with said transverse shaft and at its inner end a clutch connection with the drive shaft of said motor means for operating said clutch to render the drive of said wings operative or inoperative means adapted upon disengagement of said clutch to lock said wings against further rotation and a supporting wing extending transversely of said body and spaced upwardly above said rotating wings

England's New Queen of the Air



A photo of the "Iris II", described as the largest flying boat in the world which has been built for the British Air Ministry by the Blackburn Aeroplane Co., Brough England. It emerged successfully from the trial through which a detachment of the R A F men from Felixstowe put her recently Designed by Major Rennie the boat has three Rolls Royce Condor engines developing 2100 hp. and will carry three tons of gasoline enough for a non-stop flight to India

Aircraft Trade Notes

The Gruss Aero Strut Shock Absorber

The Gruss Aero Strut Shock Absorber, as applied to the land type gear of airplanes, gives the results necessary for the most satisfactory, economical and safe operation of aircraft.

The Gruss Air Spring has been in general use on all types of automotive equipments for a number of years, and is now a nationally known and distributed product.

As adapted to the plane, the entire weight of the plane is supported on cushions of compressed air. This device has a range of deflection of from 8 to 10 in., and when carried in its taxiing position, is approximately midway the total length of its deflection. So naturally the air pressure within the device is at its very lowest and in direct proportion to the

A Gruss Aero Strut shock absorber on a Ryan Brougham

weight sustained, and naturally susceptible to the greatest amount of flexibility under that weight, relieving the plane of all jar and racking when taxiing over rough ground.

In taking off, as the plane tends to rise, the struts extend, allowing the compressed air to expand just to the proportion of weight that the wheels are still supporting, always giving a uniform cushion regardless of the variation of load supported by the wheels.

Until finally the plane takes off into the air, the strut is fully extended, therefore, when landing, the first impact and shock of landing is absorbed by the full length of the air cushion, starting with a low pressure, and gradually increasing as the strut is deflected, thereby checking the downward motion of the plane in direct proportion to the force at which a landing is made. All rebound is effectively controlled hydraulically, without detracting from the efficiency of the air cushion.

This device makes it possible to effect much faster take-offs and shorter landings, when once the wheels touch the ground the air cushion gradually picks up the weight and with all rebound eliminated, the results can readily be appreciated.

The Prudden-San Diego Airplane Co.

Organized last May by a group of San Diego capitalists, the Prudden-San Diego Airplane Co. is now well established in a modern plant situated on the bay front, and working steadily on its first plane.

George Prudden, formerly chief engineer for the Stout-Metal Airplane Co., of Detroit, president of the San Diego concern, announces that its initial product is to be a trimotor, all metal, seven place cabin type transport. It will be equipped with three Siemen's-Halske motors for which T. Claude Ryan, founder of the Ryan Airlines, Inc., has obtained the distributing and manufacturing rights for the United States. The ship is to have 1,000 lb. payload capacity.

The company's plant embraces 10,000 sq. ft. of floor space, permits of daylight operations and occupys a convenient site on the bay front. In fact it is right next door to the factory of the B. F. Mahoney Aircraft Co., formerly the Ryan Air Lines, Inc., builder of Col. Charles Lindbergh's "Spirit of St. Louis."

The transport plane now under construction will be built entirely of duralumin. Mr. Prudden is a pioneer in aeronautical activities and his first work in that field dates back to 1911 when he built and flew two Chanute Gliders. He later constructed the first all metal airplane in the United States.

Mr. Prudden is serving on the staff of the San Diego Chamber of Commerce as Aeronautical engineer and is largely responsible for the municipal airport plans for which a $650,000 bond issue is to be presented to the voters in September.

Varnish Salesman Uses Airplane

Thomas B. Colby, manager of Berry Brothers' aviation and marine department, has notified the National Air Derby association that he will fly in his new Waco-10 biplane when the New York-Spokane race starts Sept. 19.

Mr. Colby is a son of F. L. Colby, president of Berry Brothers, and a grandson of Thomas Berry, one of the founders of the corporation.

So far as is known, he is the first Detroit sales manager to purchase an airplane for business transportation purposes. The craft will be used by him in covering his sales territory.

"We believe in the future of aviation," he said. "The demand for high-grade aircraft finishes is increasing rapidly. My department is now selling 95 per cent of the commercial aircraft manufacturers in America.

"Flying is far more than a sport. It is fast becoming an economic necessity. An airplane enables one salesman to do the work of four or five.

"The United States is my territory. With an airplane I can easily cover it alone. Otherwise several men would be needed.

"I am entering the National Air Derby merely for the sport of it. Charles W. Meyers, chief test pilot of the Advance Aircraft Co., will fly the plane and I shall go along as a passenger. After we reach Spokane we will cover the Pacific Coast, calling on customers between Seattle and San Diego."

Scintilla Magneto Official On Air Tour

I. L. Fagan, vice president and sales engineer of Scintilla Magneto Co., Inc., of Sidney, N. Y., is making a nation-wide service tour by air mail planes.

Leaving Chicago at 9:30 P.M. Aug. 31, via the Boeing line, Mr. Fagan's itinerary includes San Francisco, Los Angeles, Seattle and return to New York by air.

In a letter to AVIATION written from Cheyenne, Wyo., after completing an all-night flight from Chicago, he praised highly the planes, personnel and service of the Boeing company.

Foreign Aeronautical News Notes

By Special Arrangement with the Automotive and Transportation Divisions, Bureau of Foreign and Domestic Commerce

Luft Hansa Reports Steady Progress

The Deutsche Luft Hansa Aktiengesellschaft was organized Jan. 6, 1926, for the purpose of unifying the German air transport service. The two transport companies, Deutscher Aero Lloyd, A. G., and the Junkers-Luftverkehr, A. G., that had been in active service up to the end of 1925, approved this plan. In like manner, the Reich, the states and the cities joined this enterprise.

As regular service on the German air lines had to be suspended during the winter of 1925-26, the first three months of the year were spent in organizing the entire inland and outside services, by centralization of the individual air lines, by the purchase of additional airports and the advantageous apportionment of the already available flying fields with arrangements for an accessible reserve, and by the consolidation of the various administrative offices of adjoining airports, a savings was effected in labor and material, and strict control of all outside lines made possible.

All the data that could be gathered together from the time the German air transport service first began to operate, was placed at the disposal of the company by the board of directors, administrative council, and those of the original experienced personnel taken over by the company in 1926. In addition, the enterprise had the advantage of all the valuable experience gained by the regional air transport companies and submitted to the company by members of the board of directors.

The regular air transport service was inaugurated on April 6, 1926. The network of air lines was decided upon in accordance with the plans laid down by the parties interested. The total number of passengers carried shows an increase of about 50 per cent over the number carried in the preceding year, and the total amount of freight and mail carried, an increase of about 150 per cent.

The removal of the restrictions of the so-called London Ultimatum in regard to commercial aviation, facilitated the peaceful competition with influential foreign air transport companies, even though the establishing of a service with large commercial planes could not be effected in the year reported. The line Berlin-Paris was added to the already established air lines, and as a result of negotiations with Czechoslovakia, the opening of the line Berlin-Prague-Vienna was assured for the year 1927. In 1926, the German-Russian Air Transport Co., which is affiliated with the Luft Hansa, extended its airline Konigsberg-Moscow as far as Berlin, and is now operating with great regularity.

The economic understanding with foreign countries was evidenced not only in splendid team work with foreign air transport companies, but also by well-organized cooperation with the International Air Traffic Association, the Aviation Committee of the International Chamber of Commerce, and the International Law Association.

Worthy of special mention is the reconnaissance flight of two large commercial planes over Russia to Pekin and back, and the collaboration of two large seaplanes in the Good-Will Flight in Argentina and Brazil.

At the beginning of the flying period, the company had about 100 planes meeting the air transport requirements with which to start operations. By the end of the year reported, this number had increased to 120, of which 31 were large commercial planes. The old-type planes that had been taken over were utilized for special purposes, such as instruction flights, aerial photography, measurements, etc.

The careful building up of the domestic air transport organization made it possible to establish international air routes that would be of advantage and serve as a basis for further development. Naturally, special attention was given to increasing the safety of air transportation by means of proper inspection measures, by installing special safety devices on airplanes and air routes, and by cooperating in the improvement of the flying fields. Particular thought was given to the special training of the flying personnel. The testing of personnel and planes on experimental flights at night and in fogs brought further progress.

The company's workshops at Staaken proved to be of value and benefit to the air routes in effecting repairs and general overhauling, thorough testing of planes, and by immediately utilizing any experience gained by putting it into practical account. In the year reported, it was found necessary to build an additional repair shop for land planes. By means of the effective distribution of regular overhauling work, steady employment and working hours could be assured, and temporary emergencies overcome without acquiring new equipment, or having the men work overtime.

As a result of the steady growth of air traffic, it was found necessary to increase the personnel in the flying season from a total of 934 men (458 employees, 476 workmen) to 1,527 (564 employees, 963 workmen) at the end of the year reported.

Spain Will Establish Two Classes of Airports

Two classes of airports are to be established in Spain, according to a decree signed July 19, 1927, by the King, and published on July 20. One class of airport is to be those owned and operated in service of the state, and the other class will be those in public and private service. There is one exception and that is the airport at Seville, owned by the Spanish Trans Aerial Co., organized under Royal Decree of Feb. 12, 1927, to operate a Seville-Buenos Aires air service. All airports are to be subject to concessionary exploitation under government inspection and direction. Concessions are to be granted to Spanish companies only, and strict government control will be effective in time of war.

The Supreme Aeronautical Board will be charged with the execution of the decree. This board drafted the measure which indicates that the development of facilities for air travel is being promoted in accordance with the Aerial Convention, signed at the Ibero-American Aeronautical Congress, Madrid, 1926. Primary importance is ascribed to locating airports at Madrid, Barcelona, Valencia, Seville, Alicante, Malaga, Burgos, Galicia, and one in the Canary Islands, and special facilities at several ports for the use of seaplanes are also planned.

Additional Hangar at Frankfort Airdrome

Plans for an additional large hangar to be erected at the Frankfort airdrome have been made. The number of air passengers at this port had arisen, at the end of June, to 4,766, and Frankfort now ranks third among Germany's airports, following Berlin and Cologne.

Bucharest-Constantinople Service

The Bucharest-Constantinople Service is maintained by two passenger Bleriot-Spad planes of the La Compagnie International de Navigation Aerienne. They take three hours for the flight. A plane leaves Bucharest daily, except Sunday, at 8 A.M., reaching the San Stefano field at Constantinople at 11 A.M. It leaves Constantinople for the return flight at 2 P.M.

Side Slips

By ROBERT B. OSBORN

This recent great interest and activity in aviation is making it much harder for us to get together this column, rather than easier, as might be expected. With the editing, proof-reading, printing and mailing of AVIATION taking from a week to ten days, we are hard put to it to determine what will be aeronautical news by the time this reaches the readers (if any). With so many spectacular flights under way to so many different destinations, each flight gets only a day or two on the front pages before it is pushed off by another astounding flying project, and is forgotten in another day or two. So, when some comment on the Whoozis flight to Whatzis appears herein, we have the feeling that reader is saying to himself "Whoozis? Whoozis? Seems to me he did do something a few days ago—but what was it?"

The point we are trying to make in the above is best illustrated by the story going around, of the little boy saying to his mother, "Mother, is there really a Colonel Lindbergh?"

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The St. Louis Globe-Democrat is responsible for another story which we think worth reprinting, and take the liberty of doing,—

One Frenchman to another: "I understand that Col. Landbear, aviator magnifique, has written a book called 'Om'."

• • • •

An airplane manufacturer used to be proud to say that his ship could fly without anyone in the pilot's cockpit for long periods of time, but that accomplishment has become rather not worth mentioning since a recent Paris to London flight. The designer of the machine used in that trip can boast that his machine can fly with anyone in the cockpit.

• • • •

Some of the amateur weather seers are stating in the newspapers that the great amount of flying going on is responsible for the wet weather we are having this summer. We must agree that aviation is responsible for most of this terrible weather, but only indirectly. Of course it would rain and storm every day a ship was scheduled to take off to break some record or to make a long trip, and a ship has been scheduled to take off to break some record or make a long trip nearly every day this summer.

• • • •

Having witnessed some of the test flights of the newest racing seaplane, and having inspected its construction we have a suggestion to make for future designs. In this ship the engine crank-case not only serves as its own motor mount, but becomes a still more important part of the structure in taking the front pontoon strut loads. Why not carry this scheme to its logical conclusion,—cast small fins on the crank-case to replace the wings, bolt a seat for the pilot on back of the engine and give him a couple of butter paddles for controls? The fuselage on this ship doesn't do much more than cowl in the engine and pilot, and might as well be discarded in future racers. We do hope, though, never to live to see the day when wings will be cut down so much that they will be discarded altogether.

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The recent action of the Army Air Service in "honorably discharging" all Jennies in the service, has been a severe strain on the treasury of the Society For The Aeronautical Education of Artists and Custodians of Fund for Retiring All Jennies at Ten Years of Age. These Jennies, in consideration of their long and faithful service are deserving of comfort and happiness in their old age and it is the purpose of this society to provide such rewards. Anyone wishing to contribute to the fund will kindly send new, unmarked bills to us, care of AVIATION.

AIRPORTS AND AIRWAYS

Los Angeles, Calif.

By Charles F. McReynolds

Col. Charles A. Lindbergh will land at Clover Field when he arrives in Los Angeles at 2:00 P.M., Sept. 20. A crowd of 300,000 people welcomed the world flier home to this field and police are preparing to handle a throng of at least twice that size on Lindbergh Day.

The ceremonies can only last from 2:00 to 9:00 P.M., the chief event being a ten mile parade up Washington Boulevard from Clover Field to the Los Angeles City Hall where Mayor Cryer will extend the official greeting of the city.

Los Angeles has decided to place a powerful aerial beacon on the summit of the new twenty-four story city hall, now nearing completion, in honor of Colonel Lindbergh. It is planned to have this light installed by the time of his visit to this city.

The Ford plane which was recently delivered to Jack Maddux, Los Angeles Lincoln dealer, has been in the air much of the time during the three weeks since its arrival here. The plane is being flown from Roger's Airport, and when not in the air is on exhibition within an enclosure which was made necessary by the crowds attracted to the field for a glimpse of Ford's all-metal air liner. Several salesmen are constantly in attendance to answer questions and advise customers on routes for special sight seeing trips.

Many sight seeing trips about the southland have been flown in this plane since its arrival, the moving picture companies have several times called upon it for the rapid transit of stars and film executives to location.

William E. Atwood, of Riverside, Cal., won all events in the Southern California model races. The meet was presided over by Major C. C. Mosely of Western Air Express.

A second Fokker Universal has been ordered by Jack Frye, president of the Aero Corp. of Calif., as the present machine delivered just two weeks ago is in the air most of the time with passengers and is attracting wide attention.

The two stock model Eaglerock planes have been delivered and are being tuned and tested for the National Air Races at Spokane. The planes are strictly stock and are powered with the OX-5 engine.

Paul Richter left for Spokane on Sept. 8 in one of the planes and flew East over the New York-Spokane route in order to familiarize himself with the course. The other Eaglerock will be flown from San Francisco to Spokane by Lieut. Jack Frye. Both planes will be entered in the races for commercial planes during the National Air Meet.

The Aero Corporation specializes in passenger carrying. It gives no aerial exhibitions and will not sell a stunt ride, and as a result of this policy the company carried more than five thousand paid passengers during the three summer months of June, July and August, according to Richmond A. Edwards, vice president and field manager.

The new Fisk International biplanes are attracting much attention at the Burdette Airport. Burdette Fuller has taken delivery on four three place models, OX-5 equipped and has ordered an International F-17 four passengar and pilot ca-

pacity, Whirlwind equipped, biplane

The Warren School of Aeronautics has placed their new Thunderbird biplane flown by George E Irvin, at the disposal of the city planning commission in the hope that an aerial survey may assist in choosing the site for a municipal airport Although several flights have been made for this purpose no action has thus far resulted

F L Odenbrett will shortly take delivery on a Thunderbird equipped with the locally built 120 hp Bailey radial engine and plans to fly it in the San Francisco to Spokane air race

Springfield, Mass.

By Charles Hanson Gale

The first federal recognition of aviation in Springfield under the regime of the aeronautics division of the department of commerce came with the recent official approval of the new air beacon on the roof of the Forbes & Wallace building, the city's largest department store The plan for erecting the beacon was submitted to the federal authorities some time ago and it was approved with the promise that it would be included in future airways data

The beacon was dedicated recently The ceremonies were preceded by a dinner at the Colony club given by Andrew B Wallace, chairman of the citizens airport committee, to the other members of the committee and a few guests Mr. Wallace is the donor of the tower William G McCracken of the aeronautics division was expected to be present and make an address

The party went to the roof of the Forbes & Wallace store after the dinner and Mayor Fordis C Parker pressed the button that started the light on its first night of regular duty. The event attracted many newspaper men and photographers and a large number of interested citizens on the street and from nearby points of vantage awaited the first flashes from the beacon Considerable public interest has been displayed over the installation and operation of the light. Work on the steel tower and the wiring of the beacon was rushed during the previous week to have the light in operation for the air pageant

Aviation enthusiasm, which has been running high in Springfield this summer, was intensified during the week preceding the air pageant by window displays by many of the merchants on Main street. Photographs of many types of planes and of important aviation events and many trophies won in air meets in various parts of the country were included in the exhibits. Those which did not contain flying souvenirs suggested aviation by the arrangement of their displays or the wording of their show cards The exhibits attracted large numbers of spectators

Further federal recognition of local aviation came with the arrival of Winthrop O Sargeant, an inspector of the department of commerce, to look over the planes, pilots and mechanics of the Springfield Airlines and the Massachusetts Airways companies. He made the rounds and found everything in good condition He gave the written examinations to three mechanics of the Massachusetts Airways Company during the day and examined the two mechanics of the airlines company

Milwaukee, Wis.

By H C Brunner

Air mail service and means of making it more generally available and more widely used will be discussed at a meeting shortly of air service committee of the Milwaukee Association of Commerce at the Athletic Club Carl Herzfeld is chairman of the committee. Members are Frank A Vaughn, Stuart Auer, W Barth, A Etzius, James Fisk, W Fuller, Thomas Hamilton, Rudolph Hoksmoen, John Loeber and Ray Smith

Carrying out on a small scale a demonstration of the possibility of linking commercial aviation with water travel, the "Maiden Milwaukee", the all metal airplane manufactured by the Hamilton Metal Plane Co. recently flew out over Lake Michigan, alighted beside a yacht and successfully returned to its base near the Milwaukee Yacht Club The demonstration was witnessed by the board of directors of the First Wisconsin National Bank, from Herman Falk's yacht, "Christina"

An effort to persuade the War Department to establish a Wisconsin National Guard Air Service with headquarters in this city for the purpose of placing Milwaukee in the aviation lead in the northwest has been started in Washington, D C., by C C Younggreen, chairman of the recent celebrations for Col Charles Lindbergh and Lieut. Lester Maitland, Atlantic and Pacific fliers

Mr Younggreen, who flew with Lieutenant Maitland from Milwaukee to Washington recently, conferred with war, commerce and postoffice officials If the effort to have a National Guard Air Service unit assigned to Milwaukee is successful a landing field, several airplanes and instructors will be provided for the instruction of the guardsmen in the unit, Col Peter Piasecki, postmaster, stated

The air reliability tour, sponsored by the Alonzo Cudworth Post of the American Legion, received additional impetus when the exact schedule was drawn up The schedule is as follows:

Sept. 20, leave Milwaukee 8 A M ; Sheboygan, arrive 9 30 A M ; leave 10 30 A M , Manitowoc, stop for lunch, arrive 11 30 A M , leave 1 30 P M , Green Bay, arrive 2 30 P M , leave 3 30 P M ; Neenah, arrive, 4 30 P M ; stop overnight

Sept 21, leave Neenah 8 A M ; Oshkosh, arrive 8 30 A M ; leave 9 30 A M , Portage, stop for lunch, arrive 11 A M ; leave 1 30 P M , Madison, arrive 2 30 P M , leave 3 30 P M , Monroe, stop overnight, arrive 5 P M

Sept 22, leave Monroe 8 A M ; Janesville, arrive 9 A M ; leave 10 A M , Kenosha, stop for lunch, arrive 11 30 A M ; leave 2 P M ; Racine, arrive 2 30 P M ; leave 4 P M , Milwaukee, arrive 5 P M.

The tour will start at Milwaukee and will touch 11 Wisconsin cities in a 500 mile flight. The tour will be limited to ten planes, Hans Feldman, chairman of the tour committee, announced. An advance plane, and an Eaglerock, to be piloted by Mark Hubbard of Wausau, left Milwaukee on Sept 6 to make a survey of the route and arrange for landing facilities.

Syracuse, N. Y.

By John S. Pendergast

Aviation made its first bid as a feature of the annual New York State Fair here recently and the thousands of fair visitors showed a marked interest in it

Comdr Richard E Byrd, Arctic and trans-Atlantic flier, was guest of honor at the Fair and he was accorded a reception unequaled in the history of the exposition

The aviator came to Syracuse at the invitation of Jerome D Barnum. During the two days he was the central figure in the fair

The commander went to the grounds the first morning of his visit where he addressed more than 1,000 farm boys and girls from all sections of New York State

Commander Byrd later addressed a crowd of several thousand from the speakers stand on the Fair grounds and at night was guest at a farm dinner given by Mr Barnum In all of his addresses the commander remarked on his North Pole and trans-Atlantic flights and outlined plans for his trip over the South Pole.

The second day Commander Byrd spoke before 10,000 persons in the grand stand at the fair A special amplifying system was installed to carry the commander's voice to every corner of the giant stand

Assistant Secretary of the Navy Theodore Douglas Robinson was also in Syracuse with Commander Byrd

Lieut Comdr D C Watson and Lieutenant Callaway piloted two Navy planes to Syracuse to take part in the reception to Commander Byrd They battled fog and rain from Albany west and the former was forced down by engine trouble about 10 mi from the municipal airport.

W B Kinner, of the Kinner Airplane and Motor Manu-

facturing Company, of Glendale, Calif., landed at the municipal airport recently after a 30 hour flight from his home city. Gordon K. Hood, manager of the port, aided Kinner in refueling and the plane took off immediately for New York.

Kinner is the manufacturer of the new Kinner five-cylinder 100 hp. air-cooled engine. The plane in which he made the 30 hr. flight was equipped with his engine.

Otto Enderton of Rochester landed at the port en route to his home field. Otto flies a Waco 9, and with Jack Dunlop, also of Rochester, has the Central New York agency for the Waco.

Riverside, Calif.

By J. S. Hammond

Riverside Airport has recently been re-graded, lengthened and leveled. Anything from a little flivver to an all-metal transport has landed on this field and like any good airport, a general invitation is extended to any and all pilots to make use of the field when flying cross-country.

Riverside Airport has just been incorporated with Roman C. Warren, cowboy aviator and pioneer founder of the field as president, C. Lisle Stalder, vice-president, C. W. Seaton, secretary and treasurer, and Johnny Hammond, field manager. Immediately following incorporation a large four plane hangar of galvanized iron and an adjacent office were constructed.

Gasoline pumps have been installed, a black and white wind sock placed on the hangar roof and a large 75 ft. landing T is being laid out. Although the airport can be located from the air without any difficulty, in a few weeks the words "Riverside Airport" will loom up in big twenty foot letters on the hangar roof. The field is still in its original location on the Los Angeles-San Diego highway near the Mission bridge, Santa Ana River and Mt. Rubidoux.

Repair facilities have their place in the hangar, and with telephone service, motor bus, an auto service station, cafe, grocery and auto camp directly across the street from the field, Riverside Airport has proven popular. Harry Giddings, pilot of a Curtiss JN, Bill Seaton, F-17, Clifford Martin, JN, Roman Warren, F-17 and special TM scout, and Johnny Hammond, JN, are all flying from the field.

Recently Jack Frye piloting a Fokker Universal dropped in from New York, non stop from Tucson, Ariz., with three or four eastern passengers. They planned a ten minute stopover, but on climbing out of the plane they exclaimed, "So this is California. The prettiest and most scenic airport we've been in on the whole trip!" They stayed three hours, serviced the plane and took off for San Francisco.

San Angelo, Texas

By Willard Cope

Vernon B. Cox of Ozona has bought a three-passenger Travel Air plane at Dallas and likely will erect a hangar for the machine in San Angelo. He returned from Dallas this week with his brother, Kenneth B. Cox of San Angelo, after taking flying instructions for the last ten days. He has a number of hours in the air, having been in the aviation division of the Navy during the World War.

The airplane is expected to arrive within the next thirty days. It is being completed in the factory at Wichita, Kan. It will be powered by an eight-cylinder Curtiss engine and will have a carrying capacity of 1,300 lb.

Green Bay, Wis.

Members of the Sullivan Post, American Legion, are positive that Green Bay needs an airport. A special committee of the Legion has been appointed to meet with other interested agencies in the city to promote the development of aviation and airport facilities.

Fond du Lac, Wis.

Forty acres of land on highway 23, east of the city, may be leased by the Association of Commerce as a public airport, it has been announced. Negotiations for a five year lease on the property are under way.

Robbinsdale, Minn.

This field, close to Minneapolis, has been the hop off point and set down for planes of many types during several years.

A number of old type planes are in evidence at the field at present, but they are gradually being disposed of with the idea of acquiring new production planes.

About 5 to 20 planes are usually seen at the field, some of which are visiting craft that have stopped over to be serviced.

Gene Shank and his partner R. D. Ellis, who run a number of the planes, enjoy a good business as the field is conveniently located adjacent to a well traveled highway.

Student instruction, passenger carrying, exhibition flying and answering questions are some of the activities that keep the boys at this field continually on the go.

Mason City, Iowa

By Enoch A. Nerem

Col. Charles A. Lindbergh dropped back to rank of cadet flier and flew with the Selfridge squadron of pursuit planes at the dedication of the Legion community airport at Mason City, Ia., recently.

The dedication was attended by at least 25,000 persons from all parts of northern Iowa. The program included the appearance of the airship, RS-1 from Scott Field, Ill., which was in the command of Lieut. O. A. Anderson and Capt. William Kapner, as well as the performance of a big Fokkar plane with three Whirlwind engines, brought by Hanford MacNider, Assistant Secretary of War, who was at the dedication.

Col. Lindbergh's appearance came as the result of an invitation of Secretary MacNider to come and spend the day with him while the former was in Iowa on his Guggenheim trip. The young flier had told the war secretary once that he would go 500 miles to see the Selfridge pilots. The secretary pointed out that here was a chance to fly with them by going 200 m.

The Mason City airport is an 80 acre tract, fairly level and with excellent natural facilities for the making of a good landing field. The local legion post will spend the $3,500 profit made at the dedication in new improvements at the field. A hangar for two planes has already been constructed. The post is planning the addition of lights and other improvements.

Neenah, Wis.

Neenah's airport will be ready for use within the next 30 days and the first passenger carrying plane, which H. H. Held, local real estate dealer, plans to put into service here, will have arrived by that time. One larger machine is expected to arrive in from sixty to ninety days and will be put into commercial passenger carrying service. Other air service is also under consideration, said Mr. Held. Work on the landing field is progressing rapidly.

Oshkosh, Wis.

The Oshkosh airport proposition has been referred to the industrial commission of the Chamber of Commerce. Action in that regard was taken recently by the general aviation committee with the expectation that a successful culmination of the campaign for airport funds may yet be outlined.

Winston-Salem, N. C.

By Robert Carmichael, Jr.

Miller Municipal Airport, Winston-Salem's new field, has been leased to Reynolds Airways, Inc., for a period of ten years. The proposal for lease was presented to the airport commission by Richard J. Reynolds of this city, president of the company bearing his name. He stated that planes will be sent here as soon as the field is completed early in October, and he plans to operate commercial planes and also conduct a school for pilots.

The commission also awarded a contract to Kester Machinery Company of Winston-Salem for installation of flood lights, boundary lights and other fixtures for illuminating the field. The system will be installed immediately. To provide a temporary water supply, until the city system can be extended to the field, a well has been dug and contract for installation of an electric pump and a storage tank will be let within the next few days. The contract also is to be let immediately for erection of rest rooms.

Grading on one of the runways is practically finished, and work on the other is progressing at such a rate that there seems no doubt it will be ready in time for Col. Charles A. Lindbergh's visit Oct. 14.

The airport commission and the city generally are gratified over the lease executed with Mr. Reynolds. He also operates at Hadley Field, Curtiss Field and in Rochester, and expects to make this his Southern headquarters. He will have a fleet of planes here for the dedication of the field by Colonel Lindbergh.

Portage, Wis.

As an expression of local interest in the possibilities of commercial aviation a joint meeting of citizens' organizations and business men was held recently and laid plans for a county aviation day to be held at the government landing field just outside the city.

Madison, Wis.

Business men of Madison and Col. L. H. Britten, president of the Northwest Airways, Inc., will abide by recommendations of the Department of Commerce in deciding whether the route of the airways should be changed to permit a stop at Madison.

Boston, Mass.

By Daniel Rockford

Theodora Holcombe, president of the Boston Chapter of the National Aeronautic Association, has been appointed judge for the model airplane contest to be held as part of the New England aviation exposition at Mechanics Building in Boston Sept. 26.-Oct. 1. He has named Sumner Sewall, war-time ace now traffic manager for Colonial Air Transport Inc., and President John D. Haughey of Air Service of New England, Inc., as co-judges. Twenty models have already been entered.

Capt. Peter C. Borre, Lieuts. Milton A. Stoue, Lyman H. Haggerty, and Edward Newhall were on active duty at the airport until Sept. 10.

Two seaplanes are now operating commercially from Boston. An Aero-Marina piloted by Mr. Mosher is running from the Dorchester Yacht Club. A Martinsdale T-6 with a Rolls-Royce engine owned by Matthew Luce and George Gerrity is being flown for them by E. P. Boyd, Naval reserve pilot, from the Boston airport.

Mr. Sargeant formerly lived at Holyoke and has been about the only person flying regularly around here since the War. He was a pilot for the air service during the War and since then has been flying from various fields in this section.

He looked over the two fields while he was here and stated that the Dunn field in Longmeadow, which has been under consideration for development as a municipal airport for some time, held the greatest possibilities for future growth. The Randall farm field, which the Massachusetts Airways company is using, was said to be almost perfect in its present state for immediate use but its small size discouraged its adoption as a municipal project. Mr. Sargeant left here for a tour of inspection at the East Boston airport and later returned to check up the planes arriving here for the air pageant.

Oklahoma City, Okla.

By Ernest W. Fair

Billy Parker, whom the Oklahoma News has called the "City's First Homa Grown Pilot" recently made a three hop trip from Oklahoma City to the Pacific Coast with his mother. Parker is the regular pilot of the Phillips Petroleum Co.'s plane and flies the Whirlwind engined Travel Air biplane of the company.

Two government operated beacon lights to guide fliers into Oklahoma City are being installed at Briton and Moore here. The Chamber of Commerce is spending $16,000 in improving the local field.

Bob Tarbutton has bought a block of ground next to the local municipal airport and is to build his own field and hangar there and later on airplane factory. He has already built several planes of his own and has long been working on a new model plane to introduce as his manufacturing line.

Utica, N. Y.

The Tilden Realty Corporation has announced that the plot of ground which they own along the Utica Parkway, Utica, N. Y., and which has been used for several years as a flying field, is no longer available for aircraft.

Minneapolis, Minn.

By H. A. Lindbergh

During the State Fair at Minneapolis this year an aircraft exhibit will be held on the grounds, in addition to the usual type of displays and attractions.

Maj. Ray Miller, commanding the 109th Aero Squadron, Minnesota National Guard, is in charge of arrangements and expects all available space will be occupied.

The proposed exhibit is of interest to a number of possible buyers of planes as well as others, for it enables them to view and compare at a convenient point the features of the different types most suitable to their requirements.

Commercial planes will of course be mostly in evidence but Major Ray Miller hopes to have some late type Army and Navy types on exhibit. Although there will be engines and accessories on display, most of the available space will be reserved for planes.

The complete information as to what planes will be on display is not available, but it is expected that the well known popular makes will be there as well as others that are striving for public approval.

A tent 100 x 400 ft. will house the show and it will no doubt be a feature of the fair that will be well attended, since the tremendous increase in interest in aviation is so evident during the past few months.

The Wold-Chamberlain is a busy field as various activities are centered there. The Northwest Airways operating their Stinson Detroiters on the Contract Air Mail route between Minneapolis and Chicago are occupying one of the five large hangars on the field.

The Trump Airways, Inc., that is running a passenger service to Duluth in a Buhl Airsedan (4 passengers and pilot—Cecil R. Sinclair) is using this airport as a base, with the offices located in the loop section.

The 109th Aero Squadron Minnesota National Guard, under the command of Major R. S. Miller is stationed here. Lieut. Geo. M. Palmer is the instructor, and there are fifteen rated pilots and nineteen commissioned officers in the squadron.

Several private planes of various types are in evidence at the field, which, combined with the regular activities and visiting planes, offers a variety of performances for those who stop at the field.

This field is easily recognized from the air as it is enclosed within a large abandoned concrete race track, that now serves as a distinguished mark.

An over night stop will be made here by the planes participating in the National Air Races, so another opportunity will be offered to note the features of the well known makes and newly designed jobs.

Cities Consider Acquiring Airports

The following cities, in addition to those already announced, are considering the establishment of airports or have already taken steps towards acquisition:

Ontario, Calif.; Wallingsford, Conn.; Mt. Dora, Vero Beach, Fla.; Athens, Ga.; Bloomington, Ill.; Huntington, Ind., Pratt, Kans., Beverly, Springfield, Mass.; Benton Harbor, St. Clair, Mich.; McComb, Miss.; Auburn, N. Y., Galion, Kent, Portsmouth, Ohio; Myrtle Beach, S. C.; Denton, Tex., Rutland, St. Albans, Vt., Manasses, Va.; Keyser, W. Va.; Beloit, Kewaunee, Wis.

Duluth, Minn.

During Colonel Lindbergh's home coming celebration in Little Falls the Swallow plane "Miss Duluth", one of the machines of the Arrowhead Airways made the trip from here,

circled over the flier's home town and dropped circulars of greeting from Duluth and the local Junior Chamber of Commerce.

John A. Stephenson Jr., president of the local Chapter, and Wm. Magn, a member, were the passengers in the plane and represented the Junior Chamber of Commerce, the young man's organization of which Col. Charles A. Lindbergh is a member.

It will be possible to set down larger planes at the Arrowhead Airways flying field as overhead wires close-by are to be placed underground and neighboring trees will be removed, thus making the space to the edge of the field available when required.

Eddie Middagh, chief pilot of the Arrowhead Airways, and A. J. Hase, president, were the judges in the model airplane contest held at the Tri-State Fair in Superior during the second week of September.

Eddie is patrolling the right-of-way of the Duluth, Missabe and Northern Railroad and the properties of various lumber companies, on the look-out for fires, that usually menace this part of the state in the fall and spring. From his look-out post (pilot's seat), he can watch a considerable area and cover more territory within a short time than is possible through any other means.

Joe Gooddall, who generally makes a parachute drop on Sunday afternoons as a feature attraction besides Eddie's stunt flying, will teach a night-school class in the fundamentals of aviation during the coming fall and winter at one of the Superior schools.

An agency for a well known commercial plane is planned and several orders are waiting to be filled as soon as the necessary details are completed.

Philadelphia, Pa.

By Edwin L. Bowker

Twenty-five Philadelphia firms made shipments to the West on the first plane from Hadley Field, near New Brunswick, N. J., for Cleveland, the day that the federal government relinquished to private control all mail and express transportation through the air. The Philadelphia shipments included radio equipment and wearing apparel. They were consigned to points on the Pacific Coast. Collections will be made at Philadelphia so that parcels can leave on planes from New Jersey at 12 15 P.M. and 9 35 P.M. daily.

The Pennsylvania Public Service Commission at Harrisburg has received an application for incorporation from the Gettysburg Flying Service, Inc. This is the first application of the kind to be presented to the Commission.

The new company proposes to convey passengers by air between Gettysburg and Washington and also on airplane sight-seeing trips over the Gettysburg battlefield.

A Statewide air service is planned by the company and landing fields are under consideration at Williamsport, Scranton, York, Gettysburg, Sunbury, Wilkes-Barre, Bloomburg, Bellefonte and Harrisburg. Freight and passengers will be carried.

The incorporators are Henry A. Berliner, Washington; Charles P. Swope, Andrew H. Mash, Chevey Chase, D. C.; Lowell F. Harding, Washington and Howard C. Mininger, Gettysburg.

A commercial flying field will be purchased near Gettysburg.

A Philadelphia party of five has already engaged the monoplane, Fairchild, for a flight from this city to Chicago Sept. 22, to witness the Tunney-Dempsey championship fight.

This is the first engagement for the Fairchild which was built for charter flights throughout the country with the Philadelphia airport as headquarters. A Philadelphia-Boston flight has been booked for next month. Bob Hewitt is the pilot of this plane. He brought it over from Farmingdale, L. I., recently.

R. S. Saltus, general manager of the Philadelphia Airport, has left for a two weeks vacation. He first went to Bar Harbor, Maine, and after a week there will go to Detroit.

The Naval Aircraft Factory at Philadelphia will celebrate the tenth anniversary of its establishment in conjunction with Navy Day, Oct. 27. The feature of the celebration will be the first public test of the latest creation of the factory, the TN-1, a new type of torpedo seaplane.

The factory was authorized July 27, 1917, and erection of the first building started a fortnight later. Less than one month after the completion of the first building of the plant, the keel of the first plane was laid and in March, 1918, the first seaplane designed and manufactured in Philadelphia was given its initial test flight successfully. The factory began its first experiments with the N-1 and gradually evolved its work to the NC type of seaplane.

Besides the regular seaplane the Philadelphia Naval Aircraft Factory has turned out numerous bombing planes. During the final month of the World War this factory was turning out a completely assembled plane daily. Many of the completed planes were held up in the Navy Yards through lack of transportation facilities to Europe. Most of the seaplanes built at Philadelphia were used for patrolling the North Sea zone.

Councilman Fred Hodges, head of the Reading, Pa., Water Board, has protested against placing the city's new airport on Water Bureau lands. Accordingly the Reading Airport Commission has referred the matter to the State Board of Health for final decision. Should the health board approve the plan, Hodges will further protest on the ground that the Airport Commission cannot appropriate another city department's holdings without its consent. It is held that placing buildings on the water shed of the city's new reservoir would pollute the water.

The first "airplane garage" to apply for a charter in Pennsylvania since the Lindbergh ocean flight, has been approved by the State Department at Harrisburg. It will be known as H. R. Gelwicks, Inc., of Mechanicsburg. The incorporators are Helen R. Gelwicks, treasurer, H. R. Gelwicks and John H. Adams, all of Mechanicsburg.

Captain Turner, the flying cigar store pilot, was welcomed to the Philadelphia airport by Arthur B. Eaton, secretary of the Civil Service Commission, who hailed Turner as a pioneer in the field of aviation.

Captain Turner presented Mr. Eaton with a bronze plaque which later will be given to the Mayor of Philadelphia.

The first man to make a purchase in this city from the unique flying shop was R. Sanford Saltus, manager of the Philadelphia Municipal Flying Field and vice chairman of the Aviation Committee of the Chamber of Commerce. "Miss Philadelphia" and "Miss Wichita", Atlantic City pageant beauties, were also on hand to greet the flying cigar store.

UNITED STATES AIR FORCES

Inspection of N. G. Air Units Shows Progress

A recent inspection by the Militia Bureau of the War Department revealed that National Guard Air units have reached a stage in their training which will permit them to perform training missions in conjunction with the other units of the Infantry Divisions.

At the present time there are in the National Guard 17 divisional air units, each consisting of an air observation squadron and one photo section. There is also one field Army observation squadron. Of these 18 units, 13 were visited during the inspection. The entire trip was made in an O-2C plane, and involved 7,000 mi. of cross-country flying.

During the fiscal year ended June 30, 1927, each National Guard pilot averaged 74½ hr. flying time as pilot. The greater part of this flying was accomplished in training type airplanes but, with very few exceptions, all of the 210 pilots in the National Guard qualified on service type airplanes during the year.

At the present time there are 101 JN (training) type airplanes, 46 PT-1 (pursuit) and 14 O-2C (observation) air-

planes in the National Guard. There will be a temporary shortage of flying equipment in the National Guard shortly, when all of the JN planes are salvaged as obsolete in the interest of safety. Many National Guard pilots have become greatly attached through years of association to their "Jennies". As the result of the elimination of the JN, National Guard squadrons will be forced to curtail their flying activities during the next few months prior to delivery of replacement equipment. For the remainder of the present fiscal year, all units will be reduced to five airplanes each, instead of the authorized allowance of eight planes.

It is expected, however, that all units will be equipped in the fiscal year 1929 with three standard observation airplanes and five advance training or special service airplanes. Modern radio equipment is being purchased for installation in the three observation planes of each squadron, to be delivered prior to the field training period of next year. As all other auxiliary equipment is now available, the National Guard squadrons should, next season, be able to perform all missions required of division air service.

Air Corps Reserve Officers in Active Duty

Due to the recent expansion brought about by the five-year Army Air Corps development program, the Air Corps has called into active duty 83 reserve officers for duty for a period of one year. The 1927-1928 appropriations make it possible to send 110 reserve officers on continuous active duty for a year. During the next five years there will be increases in the number of reserve officers called on active duty. It is anticipated this increase will be 110 each year until the annual quota of reserve officers on duty with the Army Air Corps will be 550, as called for in the expansion program.

There are at the present time 6,073 reserve Air Corps officers. This number appears to be sufficient for an indefinite expansion of the Air Corps under the present program. However, an analysis of these figures shows that, although there are 3,463 heavier-than-air officers, only 19 per cent, or 654, are rated as class A pilots, officers who are qualified to fly one or more types of service planes; 1,007 come under class B, officers who are competent to fly in training planes, the remaining 1,802 belong in class C, officers who are willing to fly but who cannot fly alone.

Out of 557 Reserve officers who are rated as airplane observers, only 13 are in class A, 32 in class B, 215 in class C, and 297 in class D.

In the Lighter-than-Air Division which comprises the flying of balloons and airships the same situation exists, there are two flying pilots in class A, eight pilots in class B; and eight in class C. Of those holding the lighter-than-air observers rating there are four in class A, 14 in class B, 84 in class C, and 44 in class D.

In addition to these rated reserve officers, there are 1,889 or 30 per cent of the total reserves that are listed as non-fliers, who at the present time would be of no assistance to the Army Air Corps during the Five-Year Development Program.

The Army Air Corps in its regular, as well as in its reserve officers, is at present passing through what may be termed a reconstruction period. Old planes are being replaced by the modern types and in this process it has not been possible to have the number of replacements keep abreast with the number of wash outs. This condition is a temporary inconvenience out of which will grow much more satisfactory conditions than have previously existed.

Army Air Orders

Capt. Harold M. McClelland, Air Corps, Mitchel Field, to Washington.

First Lieut. Merrick G. Estabrook, jr., Air Corps, is assigned to duty at Wright Field, to take effect upon completion of his present tour of foreign service.

Sec. Lieut. Freeman Albery, Air Corps Res., Columbus, Ohio, to active duty Bolling Field, reverting to inactive status June 30, 1928.

Sec. Lieut. Nathaniel C. Curston, jr., Air Corps (Field Art.) is relieved from detail in the Air Corps. He is relieved from his present duties at Fort Sam Houston and is assigned to the Field Art., 2nd Div. at that city.

Sec. Lieut. Clarence W. Bennett, Air Corps (Cav.) is relieved from detail in the Air Corps and from duty with the 2nd Div., Fort Sam Houston. He is assigned to the 8th Cav., Fort Bliss.

PUBLISHER'S NEWS LETTER

The pen that has used this page for several years to discuss aeronautical topics in a more intimate way than would be possible in any other part of the paper will dip its point into many new and interesting subjects during the next few months. Major Gardner, the publisher of AVIATION, has been honored by the appointment by the Department of Commerce as its representative at the Fourth International Congress of Aerial Navigation to be held at Rome on Oct. 20-25. He has prepared a paper dealing with American commercial aviation, in which he gives a very complete and authoritative outline of this astonishing development in the United States. It was Major Gardner who first crystalized the idea that the United States led the world in commercial aviation due to the extent of the aerial service operators. He compiled figures to demonstrate this at a time when everyone was bewailing the backwardness of flying in this country. He originated the term "aerial service" to differentiate that class of flying from air transport. It is therefore appropriate that he should uphold the claims of American commercial aviation at the coming Congress.

• • • •

Besides attending the Congress, the publisher of AVIATION will be the official observer for the National Aeronautic Association at the Schneider Cup Races at Venice. As he has seen all the former races for the Cup held in this country, he will see this year's races through experienced eyes. The meet at Venice promises to be one of the most interesting events ever held, and the readers of AVIATION may expect a description of the races which will give a more detailed account than will be found in the cable despatches in the newspapers. As there will be a most interesting group of international aeronautical personages at Venice, we have asked Major Gardner to give some special attention to making AVIATION readers acquainted with some of these well known flying people.

It is not without a little envy that the staff of AVIATION will follow the trip Major Gardner plans to take after the races. Last year he flew 21,000 miles over the various air lines of Europe, Asia and Africa and along the way met many of the most interesting aeronautical authorities. On invitation, he plans a rather quicker but none the less interesting flight this year.

• • • •

His first trip will be a flight in an Italian dirigible from Rome to Naples and return. Probably no country can offer a view such as the air traveler sees from above the Bay of Naples. The flight will be continued from Rome by airplane to Venice and over the Alps to Vienna. From here the route north is not certain, owing to the change in schedule during the fall, but if the lines are operating, Warsaw, Riga, Helsingfors, Stockholm and Oslo will be visited before arrival at Berlin. Then the standard hops to Amsterdam, London and Paris will be made to visit the aircraft factories of Holland, England and France. Such a trip will have a great interest for the readers of AVIATION and Major Gardner hopes to be able to find time to write a short article almost every week on some phase of flying in Europe.

• • • •

It is a great problem for the publishers to sense the wishes of its readers accurately regarding special articles. If you are interested in some special type of article or subject, will you not do the editors a service by letting them know what you would like? And please do not be afraid to make criticism. Tell us what you don't like. You are spending four dollars a year to get what you want. Perhaps the added expenditure of a stamp or two would bring you splendid returns on your original investment. And besides, your interest and courtesy would be greatly appreciated.

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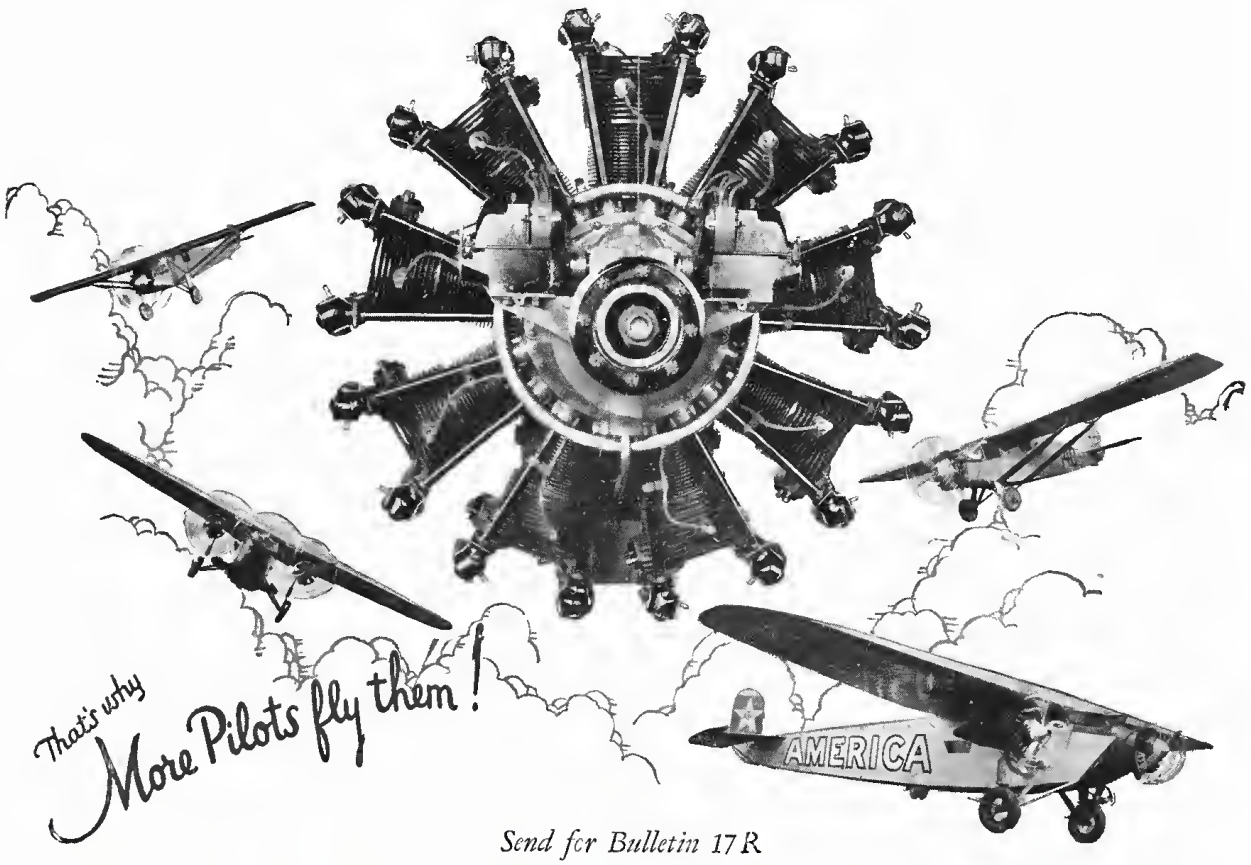

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